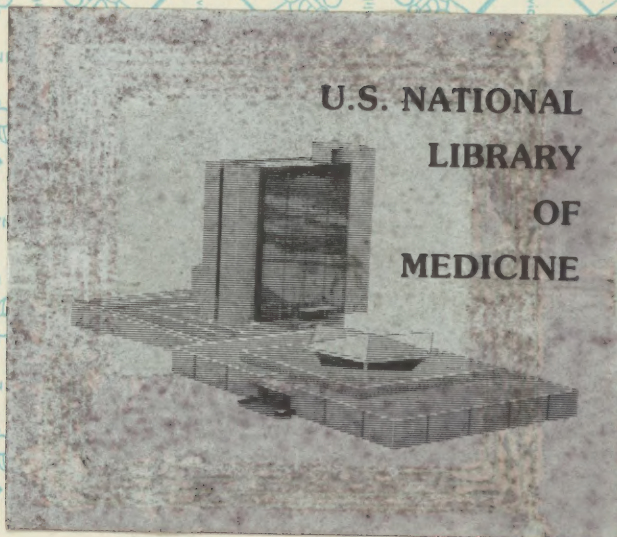


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U. S. Army Forces in the Pacific
for the technical and scientific investigation of
GENERAL HEADQUARTERS
UNITED STATES ARMY FORCES, PACIFIC
OFFICE OF THE CHIEF SURGEON
(Advance Echelon)

Japanese activities
in medical sciences
5 December 45

TO: The Chief Surgeon, GHQ, AFPAC, APO 500, Manila

THRU: The Chief Surgeon, Adv. Ech., Tokyo

INFO: The Surgeon General, Washington, D.C.

SUBJECT: Final report of The Committee for the Technical and Scientific Investigation of Japanese Activities in Medical Sciences.

1. This committee was established at Manila by Order No. 640 of the Chief Surgeon's Office, GHQ, AFPAC, APO 500, dated 22 August 45, with the expectation of benefiting from independent Japanese research and development in the field of medicine and thus gaining in the overall knowledge in this science. The delegated functions of the committee were:

- a. Examine and evaluate such Japanese installations and personalities associated with the medical sciences as may be practical during the occupation.
- b. Correlate the activities of the medical section of the Enemy Equipment Intelligence Units attached to the armies.
- c. Engage in the investigation of such other phases of Japanese Medical activities as may be directed by the Chief Surgeon.

2. The Committee arrived in Japan in two sections. One came with an Eighth Army unit (42nd General Hospital) to Yokohama, arriving at the same time as the advanced echelon of GHQ, and the other approximately a month later, with the Sixth Army (135th Medical Group) to Wakayama, then to Tokyo. The committee operated as a section of the Chief Surgeon's Office, Adv. Ech., Tokyo.

3. The plan for carrying out the investigation, as set up at Manila, was changed through force of circumstances and through prescribed procedure developing from the peaceful occupation and general cooperation from Japanese officials. The method of investigation that developed was, in general, as follows: Activities of the committee followed command channels, keeping in touch with the surgeons of the various echelons. Full cooperation was received from each. Official liaison channels were utilized in dealing with the Japanese. In many cases the Japanese Central Liaison Office, on request through G-2 Japanese Liaison, made available a representative to facilitated arrangements.

13 DEC 48

II.

4. In the above manner, over the past 3 months, every city of importance in medical education and every first class medical institution associated with research and developments in Japan, was visited. The heads of the institutions and professors of their departments were interrogated. Reprints and manuscripts were secured to supplement information gained during the interrogation. It is believed that a complete screening of Japanese Medicine for new developments and methods was accomplished.

5. A vast amount of literature and information concerning all sorts of medical activity over the past 20 years became subject to examination. This forced the committee to become a "screening" rather than an "investigating" agency. During the screening procedure, new developments, original research since 1940, unfamiliar procedures and theories evolved, and literature produced since 1940, were sought.

6. Through necessity, imposed by the scope of the mission, the committee accepted statements and reports from persons interrogated which it was unable to examine and properly evaluate. Many claims, some of them of definite scientific interest, were made by the Japanese. These claims, though not accepted as factual have been reported in the periodic reports. They were considered of interest and reported with that in view.

7. During the investigation other agencies, with somewhat similar interests, began their activities. These activities were coordinated with those of the committee as far as was possible. Information secured by the committee was made available to other agencies, when it seemed to be of primary interest of the other agency and to be reported upon by that agency. Thus, matters pertaining to Aviation Medicine were turned over to ATIC, FEAF; those pertaining to BW, to the BW officer, AFPAC; those of naval interest, to NNavTechJap, SCAP, including research projects report from the Naval Medical College; those concerning the Atomic Bomb ~~to the~~ Atomic Bomb Survey; Technical Intelligence to G-2, AFPAC; and the Chairman acted as medical member of the Scientific Intelligence Survey.

8. Staff supervision of Medical Technical Intelligence was exercised through G-2, AFPAC. Plans, for the completion of technical intelligence coverage of Japan, were implemented.

9. The screening of Japanese Medical Activities in the Home Islands, with the exception of certain "Class B" institutions, which are considered of little consequence, is now completed, and such has been reported upon.

10. Attached, as Appendix "A", is a complete list of reports on institutions and special subjects. Attached, as Appendix "B", is a list of individuals whose activities have been examined. As Appendix "C", is a list of items of interest, with reference to sections of the report, and Appendix "D" is a list of institutions screened.

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III.

11. Composition of the Committee was as follows:

Lt. Col. William S. Moore, M.C.
Lt. Col. James A. French, M.C.
Lt. Col. Dan Tucker, M.C.
Maj. Ray E. Trussell, M.C.
Maj. Theodore G. Anderson, SnC.
Maj. Arthur Stull, SnC.
Maj. Charles L. Locker, M.A.C.
Capt. John E. Tobie, SnC.
Capt. Edgar J. LaLonde, M.A.C.

W. S. MOORE
Lt. Col., Medical Corps
Chairman

Index "A" - Reports listed under Institutions.
Index "B" - Persons whose activities have been
examined, listed alphabetically and
by geographical areas.
Index "C" - List of Items of Interest
Index "D" - Alphabetical list of Institutions screened.

Distribution:

Chief Surgeon, GHQ, AFPAC, Manila.....	3	copies
Surgeon General, Washington, D.C.....	5	info copies
A C of S, G-2, GHQ, AFPAC.....	7	" "
Economic & Scientific Section, SCAP...	1	" "
Public Health & Welfare, SCAP.....	3	" "
NavTechJap - Comdr. Ayres.....	2	" "
ATIG, FEAF - Capt. Castor.....	1	" "
U.S.S.B.S., Medical Section.....	1	" "

London, 10th January 1841

My dear Sir,
I have the pleasure to acknowledge the receipt of your letter of the 7th inst. in relation to the proposed alterations in the regulations of the Society for the Education of the Poor, and in reply to inform you that the same have been forwarded to the Committee of the Society for their consideration.

Yours faithfully,
John Lubbock

Enclosed find the Report of the Committee of the Society for the Education of the Poor, in relation to the proposed alterations in the regulations of the Society, and in reply to inform you that the same have been forwarded to the Committee of the Society for their consideration.

I am, Sir, very respectfully,
Your obedient servant,
John Lubbock

Enclosed find the Report of the Committee of the Society for the Education of the Poor, in relation to the proposed alterations in the regulations of the Society, and in reply to inform you that the same have been forwarded to the Committee of the Society for their consideration.

I have the pleasure to acknowledge the receipt of your letter of the 7th inst. in relation to the proposed alterations in the regulations of the Society for the Education of the Poor, and in reply to inform you that the same have been forwarded to the Committee of the Society for their consideration.

APPENDIX "A"

Reports listed under Institutions.

I TOKYO IMPERIAL UNIVERSITY

Government Institute for Infectious Disease

Manufacturing Division

Parasitology Dept.

Colloidal Preparations of Various
Metals and Biologicals

B. Encephalitis Vaccine
B. Encephalitis Epidemiology
Dengue

Acute Liver Necrosis due to
Infection of Shellfish

The Action of Immune Serum on the
Japanese Encephalitis Virus cultured
in Vitro

Infectious Hepatitis virus isolation
and cultivation

Dysentery of Unknown Etiology
occurring on Shikoku

II. TOKYO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Institute of Pharmacology and Pharmacy

Pathology Department, Serology Section

Brain Research Institute

Opthalmology Dept.

Division of Physiotherapy and Internal Medicine

Institute for Infectious Diseases (Experimental)

III. ARMY MEDICAL COLLEGE, Tokyo

Clinical Division

Biologic Manufacturing Division

Parasitology Section

Physical and Chemical Laboratory

Appendix "A"

III. ARMY MEDICAL COLLEGE (continued)

5 Penicillin Research Committee

6 Manufacturing Division, Niigata

7 Dept. of Pharmacology

8 Kanazawa Branch

9 Field Manuals

✓ 10 Research Projects and Findings

Organization of Japanese Army Medical Dept.

IV. KEIO UNIVERSITY MEDICAL COLLEGE

Chemistry Dept.

Department of Parasitology

Anatomy Department

Journal of the Faculty

V. ARMY EXPERIMENTAL STATION, Okuba

Medical Section

General

✓ VI. KITASATO INSTITUTE FOR INFECTIOUS DISEASE, Tokyo

VII. INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH

VIII. MUNICIPAL HYGIENIC LABORATORY, Tokyo

IX. NAVAL MEDICAL COLLEGE

Organization

Preventive Medicine

Department of Pharmacy

X. TECHNICAL INTELLIGENCE

Appendix "A"

XI INSTITUTE OF PUBLIC HEALTH, Tokyo

Outline of Institute

"Myopic Problem"

Chemotherapeutic Institute, Ichikawa, Chiba

XII NAGAO INSTITUTE

XIII CHIBA GOVERNMENT MEDICAL COLLEGE

XIV NIIGATA GOVERNMENT MEDICAL COLLEGE

1 Cepharanthin

2 Pathology and (Parasitology) Dept.

3 Pathology Dept.

4 Dept. of Biochemistry

5 Clinical Division

6 Med. fac.

XV. TOHOKU IMPERIAL UNIVERSITY MEDICAL COLLEGE, Sendai

1 Dept. of Pathology

✓ M. Miscellaneous

2 Parasitology Dept.

✓ 11. 1. Surgical Clinic

3 Bacteriology

✓ 12 2. Surgical Clinic

4 S. Ota

✓ 13 Oto-Rhino-laryngological Clinic

5 Institute of Tuberculosis and Leprosy

6 Institute of Tuberculosis and Leprosy
(Investigation relating to Diabetes)

7 Clinical Division

8 Medico-Chemical Institute

9 Pharmacology

XVI HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE, Sapporo

Bacteriology

Appendix "A"

XVI. HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE (continued)

- 1 Pharmacological Laboratory
- 2 Nakamura, Bacteriology and Immunology
- 3 Hygienic Laboratory
- 4 Clinical Division
- 5 Hot Springs Research Institute
- 6 Pathology Department
- 7 Biochemistry

XVII. HOKKAIDO IMPERIAL UNIVERSITY

Veterinary Faculty

Dept. of Agricultural Chemistry

Dept. of Agricultural Chemistry,
Applied Mycology

Cryological Institute

XVIII. MINISTRY OF HEALTH AND SOCIAL AFFAIRS, TOKYO

- V Bureau of Hygiene and Sanitation

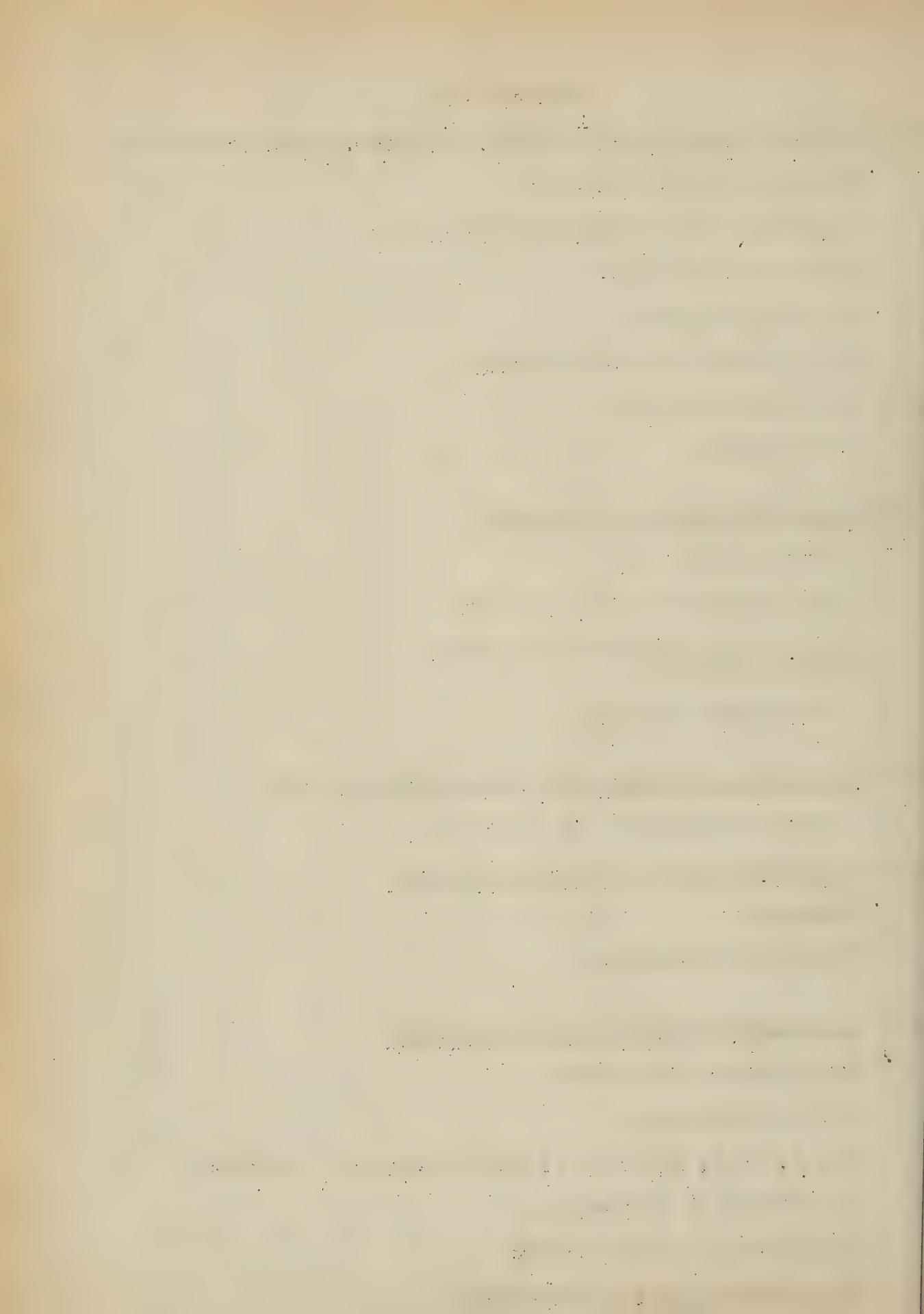
XIX. NATIONAL RESEARCH COUNCIL OF JAPAN

Projects

Reports on Projects

XX. KANAZAWA GOVERNMENT MEDICAL COLLEGE

- 1 Biochemistry Department
 - 2 Internal Medicine
 - 3 Dr. T. Tani, Director of Bacteriological Institute
 - 4 Department of Pharmacy
 - 5 Department of Pharmacology
 - 6 Pharmacology (Dr. H. Okamoto)
- 114 Dept. of forensic med.
8. Geriatric-Medical Dept.
9. Ophthalmology
10. Obstetric-gyn. Clinic
11. Surg. Clinic
12. Physiological Laboratory
13. Anthropometry
Institute of Tubercular Research



Appendix "A"

XXI. KYOTO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

- 1 Leprosy Institute
- ✓ 2 Microbiology (Dr. R. Kimura)
- 3 Pharmaceutical Department
- ✓ 4 Department of Pharmacology
- 5 Research Projects
- ✓ 6 Tropical Diseases
- 7 Utizino-Laboratorium for Chemical Research

✓ 9. First med. Clinic

✓ 10 Surg. Clinic

✓ 11 Dept. of Physiology

✓ 8 Neurology and Psychiatry

XXII. KYUSHU IMPERIAL UNIVERSITY

Bacteriology Dept.

Hygiene Dept.

Orthopedic Surgery

Pharmacology

Pathology Dept.

Public Health Dept.

Clinical Division

XXIII. NAGOYA IMPERIAL UNIVERSITY, Faculty of Medicine

Anatomy Department

Department of Bacteriology

Clinical Division

• Comments on Medical Education

Hygiene Department

Ophthalmology

Pathology and Parasitology

Dept. of Pediatrics

Pharmacology (Miwa)

XXIV. OKAYAMA UNIVERSITY, Faculty of Medicine

1 Anatomy Department

2 Bacteriology Department (*+ Parasitology*)

✓ 3 Hygiene Department

4 Internal Medicine

5 Pharmacology Department

✓ 6 Pathology

7 Physiology

8 Biochemistry

✓ 9 *Gynecology*XXV. OSAKA IMPERIAL UNIVERSITY1 Department of Biochemistry 9 ✓ *Eye clinic*✓ 2 Microbiological Institute 10 *Dept of physical therapy*

3 Department of Pharmacology

✓ 4 Physiology Laboratory

5 Surgical Clinic

6 Takeo Institute for Tuberculosis

✓ 7 Internal Medicine

✓ 8 *Anatomical Institute*XXVI. TOKYO JIKEIKAI MEDICAL UNIVERSITY

Dept. of Forensic Medicine

XXVII. AGRICULTURAL EXPERIMENTAL STATION

Director of Research

XXVIII. JAPANESE ARMY DEPOT FOR MEDICAL MATERIAL

Research Department

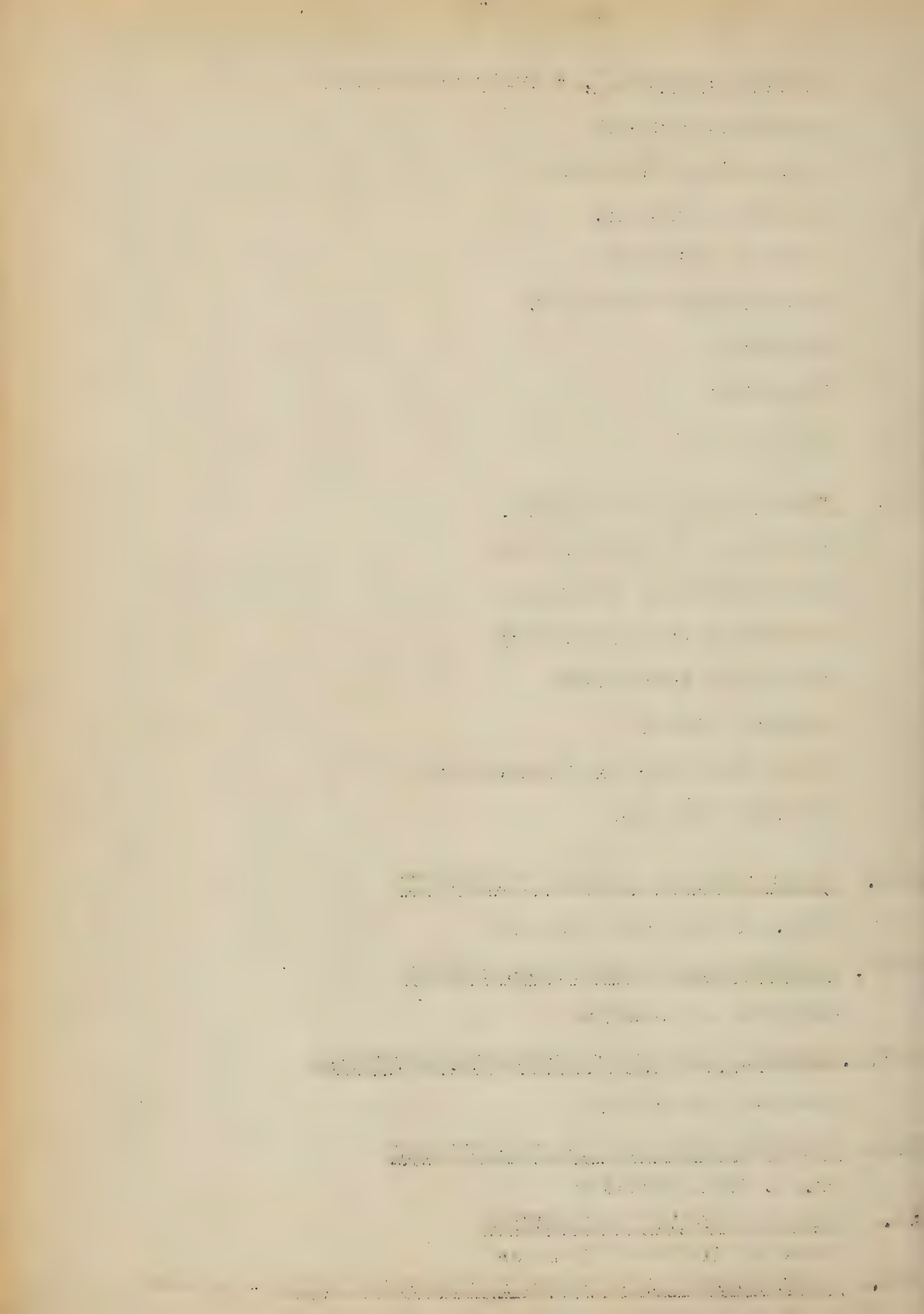
XXIX. RESEARCH INSTITUTE OF TUBERCULOSIS

Dr. H. Oka, Director

XXX. WARTIME RESEARCH COMMISSION

Board of Technical Science

XXXI. EDUCATIONAL REQUIREMENTS FOR MEDICAL DEGREE - Igakusi



Alphabetical list of persons whose activities have been examined:

NIIGATA AREA

XIV GOVERNMENT MEDICAL COLLEGE - NIIGATA

<u>Name</u>	<u>Associated with:</u>
AKAZAKI, K.	Pathology
AMANO	
ARIYAMA, N.	Biochemistry
HASHIMOTO, Takashi	Dermatology - Dean of school
ITO, T.	Bacteriology
KAITO, R.	Bacteriology and Serology
KIHARA, K.	Pharmacology
NAKATA, M.	Surgery
NOSAKIO, S.	Radiology
SHIBATA, I.	Internal Medicine
TASAKA	Internal Medicine
YASUDA, M.	Biochemistry

SENDAI AREA

XV TOHOKU IMPERIAL UNIVERSITY, MEDICAL COLLEGE

EBINA, T.	Bacteriology
KUMAGAI, Taizo	Director of T.B. and Leprosy Institute. President of Tohoku University.
KATURE, A.	Neurosurgery
KATO, Toyojiro	Emeritus Prof. of Medicine
KOGA, Y.	Radiology
MASAMUNE, H.	Biochemistry
MATSUOKA, S.	Neuro-Pathology
MIKI, I.	Orthopedics
MUTO, M.	Surgery
NASU, S.	Pathology
OSATO, S.	General Research (formerly at Kanazawa)
SATO, S.	Bacteriology
TERASAKA, M.	Pharmacology
YATSUYANAGI, S.	Parasitology

SAPPORO AREA

XVI HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

AMBO, H.	Pathology
ARIMA, H.	Medicine
INOUE, Zenjuro	Hygiene
ISHIBASHI, Toshima	Psychiatry
IWASEITA, K.	Urology and Dermatology
KODAMA, S.	Anatomy - Dean of school
KON, I.	Pathology - Pres. of school
MASAKI, Takio	Pharmacology
MIKAMI, J.	Surgery

MSAPORO AREA (continued)

XVI HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Name

Associated with:

MINOSIMA, T.	Physiology
NAGI, K.	Pediatrics
NAKAGAWA, S.	Medicine
NAKAMURA, Yutaka	Bacteriology
ONO, S.	Gynecology
OCHI, Sadami	Emeritus Prof. of Ophthalmology
SAETO, S.	Director, Hot Springs Research Institute.
SASAKI, Y.	Mycologist
SAWATARI, J.	Otology
SUGINOME, H.	Organic Chemistry
TAKEDA, K.	Pathology
UYENO, S.	Legal Medicine
YAMASAKI, H.	Anatomy
YANAGI, S.	Surgery
YASUDA, M.	Biochemistry

XVII HOKKAIDO IMPERIAL UNIVERSITY

HAMADA, S.	Bacteriology in Vet. Medicine
HANZAWA, M.	Applied Mycology
ISHIKAWA, K.	Veterinary Medicine - Dean
ITO, Nubo	Ass't. Prof. of Agricultural Chemistry.
KOHANAWA, C.	Hematology in Vet. Medicine
KUROSAWA, K.	Obstetrics in Vet. Medicine
NAKAMURA, N.	Medical Director, Cryological Institute.
TAKAHASHI, E.	Prof. of Agricultural Chem.

KANAZAWA AREA

XX GOVERNMENT MEDICAL COLLEGE, KANAZAWA

AKIMOTO, H.	Psychiatry
HEKI, M.	Internal Medicine
HIRAMATSU, H.	Physical Therapy
INOUE, T.	Forensic Medicine
ISHIKAWA, T.	Pathology
ISHIMARU, S.	Anatomy
ISHIZAKA, N.	Dean of school
IWASAKI, Ken	Biochemistry
IZUMI, S.	Pediatrics
KISANORI, S.	Gynecology
KUMANOMIDO, S.	Surgery
KUROCHI, Y.	Ophthalmology
KURU, M.	Surgery
MATSUDA, K.	Otolaryngology
MIYATA, S.	Pathology
NAMIKI, J.	Dermatology
OTANI, S.	Hygiene

KANAZAWA AREA (continued)

XX GOVERNMENT MEDICAL COLLEGE, KANAZAWA

<u>Name</u>	<u>Associated with:</u>
OKAMOTO, H.	Institute of T.B.
SAGUCHI, S.	Anatomy
SAKURAI, Yosio	Pharmacy
TANI, T.	Bacteriology
TANINO, F.	Internal Medicine
UENO, K.	Physiology

KYOTO AREA

XXI KYOTO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

AKACHI	Biochemistry
AMONO, S.	Pathology
ARAKI,	Neurosurgery
FUJINAMI, A.	Pathology
FUKITANI, A.	Pathology
FUNAOKA,	Anatomy
HATTOR, S.	Pediatrics
INOUE, G.	Pathology
KIMURA, R.	Microbiology, Dean of College
MATSUMOTO, T.	Pathology
OGASAWARA, Noboro	Director, Leprosy Institute and Microbiological Institute.
OGUI, Kikuo	Pharmacy
SEKI, Takeka	Pharmacology
SHIMANOTO, M.	Pathology
TAKANASI, Torizo	Biochemistry
TODA	Physiology
UNNO, G.	Pathology
UTZINO, S.	Director Utzino Laboratory - Chemistry
YALAZOKI, H.	Pharmacology
YAMOR, T.	Pathology
YOMAGUCHI, S.	Science, Parasitology

KYUSHU AREA

XXII KYUSHU IMPERIAL UNIVERSITY

ATSUDO, Kiomi	Hygiene and Parasitology
HIROHATA, R.	Biochemistry
HULUDAI, Tokushi	Pharmacology
IAI, E.	Ophthalmology
ICAI, Takami	Pathology
INOUE, K. (K. Ishikawa)	Radiology
ISHIMURA, F.	Surgery
ITIRINAKA, S.	Orthopedics - Dean of school
KUSANAKI, G.	Medicine
KITSUYA, T.	Urology
MITUSIMA, Haruo	Public Health
NAKASHIMA, Y.	Radiology

FUKUOKA AREA (continued)

XXII KYUSHU IMPERIAL UNIVERSITY

Name

Associated with:

OGATA, D.	Physiology
SASAKI, M.	E. E. N. T.
TAKURA, S.	Ophthalmology
TODA, Tadao	Bacteriology and Protozoology
UWATARA, S.	Obstetrics and Gynecology

NAGOYA AREA

XXIII NAGOYA IMPERIAL UNIVERSITY, Faculty of Medicine

AKUNE, M.	E. E. N. T.
HAGINO, R.	Ophthalmology
HOTTA, K.	Biochemistry
KATSUNUMA, A.	Internal Medicine - Director of Hospital
KIKAWA, U.	Obstetrics and Gynecology
KIRAHARA, S.	Surgery
KOINUMA, Bogo	Hygiene
KUNO, I.	Physiology
KIWA, M.	Pharmacology
NAGANATSU, H.	Anatomy
NAKAE, Kyoichi	Pediatrics
NAKASHIMA, M.	Ophthalmology
OGASAWARA, Kazuo	Bacteriology
OKADA, S.	Internal Medicine
OSHIMA, Fukuzo	Pathology and Parasitology
SAITO, W.	Surgery
SUGITA, U.	Psychiatry
TAKURA, H.	Dermatology - Dean of school
TOGURI, C.	Histology
UAGURA, S.	Orthopedics
YAMADA, K.	Histology

OKAYAMA AREA

XXIV OKAYAMA UNIVERSITY, Faculty of Medicine

HAMAMOTO, E.	Pediatrics
HATA, B.	Ophthalmology
HAYASHI, Kanae	Physiology
HAYASHI, M.	Psychiatry
HAYASHI, S.	Director of Research, Hayashi Pharmaceutical Co., Ltd.
INADA, S.	Medicine
KITAYAMA, K.	Medicine
MURAKAMI, Sakae	Bacteriology
NEGISHI, H.	Urology and Dermatology
OGATA, Masuo	Hygiene
OKUSHIMA, K.	Pharmacology

OKAYAMA AREA
(continued)

XXIV OKAYAMA UNIVERSITY, Faculty of Medicine

Name

Associated with:

SEKI, Masaji	Pres., Japanese Anatomy Society
TANI, Shinzui	Biochemistry
TAKEDA, T.	X-Ray
TANABE, Hiroshi	Pathology
TARO, Kazuno	Biochemistry
TSUDA, S.	Surgery
YAGI, Hideo	Gynecology and Obstetrics

OSAKA AREA

XXV OSAKA IMPERIAL UNIVERSITY, MEDICAL COLLEGE

FUCHUSHIMA, K.	Internal Medicine
FUSE, N.	Internal Medicine
IMAMURA, Arao	Director, Takeo Institute for Tuberculosis
ICHIMURA,	Biochemistry
KAGIWARA, S.	Hygiene
KUBO	Biochemistry
KINOSITA	Director, Cancer Institute - Pathology
KUROTSU, T.	Anatomy
MABUCHI, H.	Physiology
NICHIZAWA, Y.	Pediatrics
OMURA, T.	Forensic Medicine
OKAGAWA, M.	Pharmacy
OTANI, S.	Director, Bacterial Chemistry Institute.
SATANI, Y.	Director, Institute of Leprosy
TANIMURA, T.	Dermatology
TAKABAYASHI, H.	Surgery
TAKAGI, K.	Anatomy - Dean of Med. School
TANIGUCHI, Tenji	Bacteriology - Director, Microbiological Institute
YAMAKAWA, K.	Otolaryngology
YOSHIMATSU, N.	Gynecology and Obstetrics
YOHIDA, S.	Parasitologist (Retired)

TOKYO AREA

<u>Name</u>	<u>Associated with:</u>	<u>Institution</u>
ABIDO, K.	Hygiene	XIII
AKAMATSU, S.	Biochemistry	XIII
AKIYA, Satiro	Toxicology	II
ARIFUKA, Sheichi	Chemo-therapeutics	XI
ASANO, Mitizo	Biochemistry; Reg. Member	I
ASHIDA, Taizo		XVIII
AZUMA, Ryotaro	Pharmacology	II
HASSEHAWA, Shuji	Biochemistry; Reg. Member	I, XI
KATSUYA, T.	Ass't. Chemist	XII
KAYASHI, H.	Director	II
KAYASHI, Ryoza	Lt. Comdr.	IX
HAZATA, H.	Bacteriology	XIII
HIRAGA, Minoru	Urology and Dermatology	III
HIRAI, Maschito	Maj. Gen. - Deputy Director	III
HONDA	Expert	I
HOSOYA, S.	Serology - Reg. Member	I
IBUKA, Kengo	Lt. Gen. - Director	III
ISHII, Nobutaro	Parasitology - Reg. Member	I
ISHIKAWA, Mitsuteru	Medicine	XVI
ISHIKAWA, Tomoyoshi	Physiology	XI
ISHIJARA, Fusao	Director, Hygienic Lab.	VIII
ISIDATE, Morizo	Chemical Analysis	II
INOUE, Takatomo	Col. - Biologic Mfg. Div.	III
ITO, Y.	Ophthalmology	XIII
KANBAYSHI, H.	Lt. Gen. - Surgeon General	III
KANBAYSHI, Y.	Vice Admiral - Director	IX
KANNO, S.	Director, Bacteriological Lab.	VIII
KAWAI, Samae	Captain	IX
KAWAKITA, Yosio	Bacteriology - Reg. Member	I
KAWAMURA, S.	Botany	XII
KAWAMURA, Rin-ya	Pathology	IV, VI
KITAOKA, Masami	Virology - Reg. Member	I
KITASHIMA, Taichi	Director	IV, VI
KOBAYASHI, Rokuzo	Bacteriology	IV, VI
KOBAYASHI, Yoshito	Pharmacology	II
KAGAYA, Y.	Forensic Medicine	XIII
KOIDZUMI, T.	Parasitology	IV, VI
KOIKE, K.	Dean of College	XIII
KOJIMA, Saburo	Reg. Member - Editor, Journal of Experimental Medicine	I
KOMINIAM, K.	Mycologist	XII
KOYAMA, T.	Clinical Medicine	II
KUMIMOTO, Uzuhiiko	Bacteriology - Reg. Member	I
KUSAMA, Yoshio	Hygiene	IV, VI
KUTSUKAKE, R.	Pathology	IV
MATSUMI, M.	Lt. Col. - Maxillo-facial	III
MATSUMOTO	Pathology	II
MATSUSAKI, Akira	Maj. Gen.- Director	V
MIKI, Yukiharu		XVIII
MINAMIZAKI, Yushichi		XVIII
MINATO, A.	Pharmacological Chemistry	XIII
MISANO	Major - Radiology	III

TOKYO AREA (continued)

<u>Name</u>	<u>Associated with:</u>	<u>Institution</u>
MISAWA, Takayoshi	Allergy	II
MIYAGAWA, Yonegi	Reg. Member - Dojinki Society	I
MIYAKE	Pathology	II
MORIYA, Y.	Electrical Engineer	I
MAGAE, D.	Col. - Surgery	III
MAGANO, H.	Parasitology	VI
NAKAHARA, Waro		VII
NIATO	Major - Biology	III
NISHIMURA, Iwao	Chemo-therapeutics	XI
NISHINO, Chujiro	Dean	IV
NOBECH, Kezio	Director	XI
OGATA, Tomio	Serology	II
OGAWA, Teizo	Brain Research Inst.	II
OHMURI, K.	Internal Medicine	IV
OKA, Harumita	Director	XXIX
OSUZU, Hirobunji	Col. - Internal Medicine	III
OTANI, Shoschi	Major General	XXVIII
SAITO, S.	Medicine	Nihon Univ. Med. College
SAKURASAWA, F.	Director of Hospital	Nihon Univ. Med. College
SATO, K.	Dermatology and Syphology	XIII
SEO, T.	Surgery	XIII
SHIMIZU, Kentaro	Brain Research Inst.	II
SHOJI, Yoshiharu	Ophthalmology	II
SUEYOSHI, Yuji	Biochemistry	IV
SUWA, Keisaburo	Col. - Pathology	
	Neuro-psychiatry	II, III
TAKAKI, Y.	Dean	XXVI
TAKANO, Rokuro	Bacteriology	VI
TANIGAWA, K.	Col. - Orthopedic Surgery	III
TAKITA, Kikuji	Pharmacology	II
TAKURA, T.	Pediatrics	XIII
TAKIYA, Takio	Dean and Director of Tokyo Imperial University, Medical College.	I, II
TAMURA, Kenzo	Pharmacology	II
TANIKAWA, K.	Hygiene	XIII
TANAHASHI	Col. - Urology	III
TATSUI, Goro	Colonel	III
TODA, K.	Col. - Plastic Surgery	III
TSUZUKI, M.	Surgery	II
UCHIMURA, Yushi	Director, Brain Research Inst.	II
UMEZAWA, H.	Penicillin Research	III, II
YABE, M.	"BCG" Work	III, XV
YABUTA, T.	Agricultural Chemistry	XII
YABUTA, Jeijiro	Director of Research	XXVII
YAMAGATA, S.	Col. - Ophthalmology	III
YAMOSHIMA, Hoshika	Major	III
YAMAUOCHI, T.	Lt. Col. - Director of Research	XXVIII
YAMAGUCHI, Maseyoshi		XVIII
YAOI, Hidetake	Bacteriology - Expert	I
YAZAKI		XXVI
YOKOKURA, S.	Rear Adm. - Assoc. Chief of Research	IX
WATANABE, Yoshimasa	Bacteriology	

APPENDIX "C"

Items of Interest Uncovered during the Investigation of Japanese Medical Activities:

The numbered items are specific ones considered to be of interest to medical men in general. This list does not necessarily include all items uncovered, for the available literature was incompletely reviewed; due to language difficulties; some items that are not listed may be of interest to certain medical specialties.

These numbered items are followed by references, indicating the section of Appendix "A" and the report in which it is mentioned.

1. Dysentery of unknown etiology occurring on Shikoku.

Section I - Report of the same title.

2. Myopia Problems.

Section II - Ophthalmology Dept.

Section XXIII - Clinical Division - Ophthalmology

Section XXIV - Ophthalmology

Section XI - Myopic Problem

3. "Melanophoren hormone" in night vision.

Section II - Ophthalmology Dept.

Section XXIII - Ophthalmology

Section IX - Pharmacy

4. Insect Repellents.

Section III - Pharmacology Dept.

Section XVI - Pharmacological Laboratory (5, 6, & 7)

Section III - Research Reports - Studies on Communicable Diseases (2b)

Section III - Research Reports - Other studies, Prophylaxis and Treatment of Malaria.

5. Gas Gangrene Vaccine.

Section III - Manufacturing Division, Niigata

6. B.C.G. Vaccines.

Section III - Army Medical College - Kanazawa

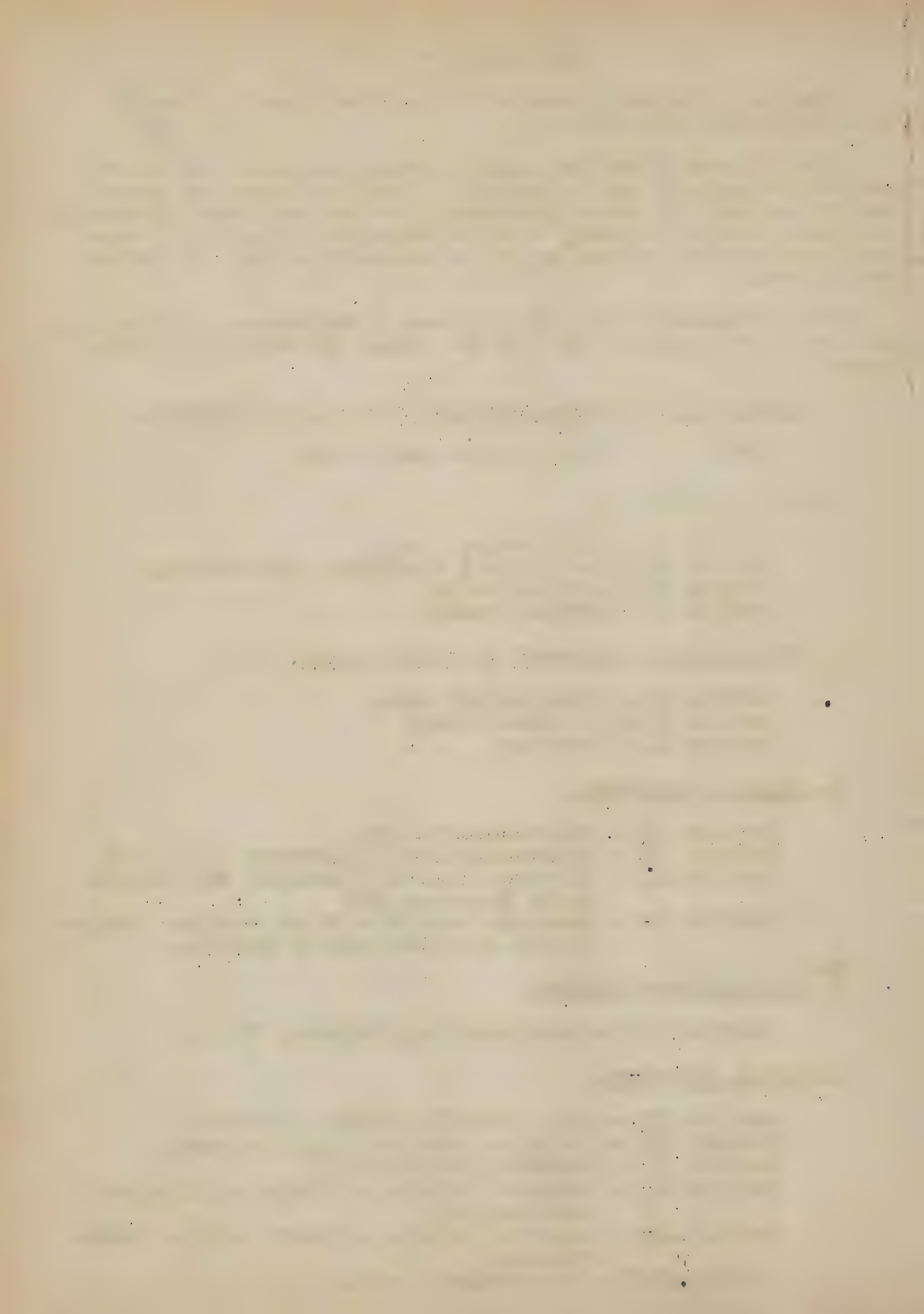
Section III - Biologic Manufacturing Division

Section VI - Kitasato Institute (1)

Section III - Research Reports - Studies on Internal Medicine (1).

Section III - Research Reports - Other studies, Tuberculosis.

Section XXII - Bacteriology Dept.



Appendix "C" (continued)

6. B.C.G. Vaccines.

Section XXIII - Clinical Division - Ophthalmology
Section XXV - Takeo Institute for T.B.
Section XXIX
Section XVI - Hygienic Laboratory

7. Use of "Cepharanthin" in Treatment of T.B.

Section XI - Chemotherapeutic Institute
Section XIV - Cepharanthin
Section XV - S. Ota
Section XV - Institute of T.B. and Leprosy
Section III - Research Reports - Studies on Internal
Medicine (2)
Section III - Research Reports - Other studies, Tuberculosis.

8. Toxic glycidamine from Human Cancer.

Section XV - Medico-Chemical Institute

9. National Research Council Projects of Japan.

Section XV

10. Gas Measuring apparatus for Measuring Minute amounts of Nitrogen.

Section XX - Biochemistry

11. O-Aminophenol Treatment of Tuberculosis.

Section XX - Chemotherapy in T.B.
Section XX - Pharmacology

12. Anti-Malarial Drugs.

Section XX - Pharmacology - Dimethoxy-8-diethylamino-ethylaminoquinoline.
Section XXI - Pharmacology - 2 Methyl-Mercapto 6 chlor-9-pyridino 3'2' and 2:3 quinoline chlor hydrate.
Section XXI - Tropical Disease - Use of Lowered Oxygen Tension in Treatment of Malaria.
Section XXII - Bacteriology - 2-Methoxy-6-chlor-9 (4-diethylamino-cyclohexyl-amino-acridin).
Section IX - Pharmacy - Sulfadibromobenzene.
Section I - Parasitology
Section III - Parasitology
Section IV - Parasitology
Section III - Studies on Internal Medicine (3b & c).

13. Electronic Microscope Studies.

Section XIX (15)

Section XXI - R. Kimura

14. Dengue Virus - Cultivation and Vaccines.

Section XXI - R. Kimura

Section XXII - Bacteriology Dept.

Section I - Dengue.

15. Leishmaniasis.

Section XXI - R. Kimura - Treatment of Leishmaniasis
with Antimonyl hexonate

Section XXI - Pharmacology

Section I - Parasitology Dept.

Section II - Colloidal Preparations of Various Heavy
Metals (2).

Section III - Research Reports - Studies in Pathologi-
cal Fields (5).

16. Schistosomiasis.

Section XXI - Pharmacology - Treatment of Schistos-
miasis with Antimonyl hexonate.

Section II - Colloidal Preparations of Various Heavy
Metals (2).

17. Prosthetic Limb Studies.

Section XXII - Orthopedic Dept.

18. Treatment of R. prowazekii Infections.

Section XXIV - Bacteriology

19. Leprosy Treatment.

Section XXIV - Clinical Medicine

Section XV - Institute of T.B. and Leprosy

Section V - Okuba Army Experimental Station (Neocyamine)

Section VI - Kitasato Institute (1)

20. Wartime Research Commission.

Section XXV

21. Education Requirement for Medical Degree - Igakusi

Section XXXI

Section III - Organization of Medical Dept., Japanese
Army (6).

22. Comments on Medical Education

Section XXIII

Appendix "C" (continued)

23. Conversion of Sea Water to Drinking Water.

Section IX - Pharmacy Dept.

24. Intra-Arterial Shock Injection Treatment.

Section XIII - Chiba Government Medical College

Section XVI - Hokkaido - Hot Springs Research Institute

25. Bone Marrow Extract for Anemia.

Section XIV - Biochemistry

26. Complement Fixation Reactions in Malaria.

Section XVI - Bacteriology

Section III - Parasitology

Section III - Research Report - Studies on Internal Medicine.

27. Colloidal Preparations of Various Heavy Metals.

Section I - Colloidal Preparations of Various Heavy Metals (1).

28. Dried Biologic and Fat Preparations.

Section I - Colloidal Preparations of Various Heavy Metals (3,4,5, & 6).

Section III - Biologic Manufacturing Division

Section III - Research Reports - Studies on Communicable Diseases (II-1,2,3,4 & 5).

29. Japanese B Encephalitis.

Section I - Japanese B Encephalitis

Section I - Encephalitis Virus Cultured in vitro

30. Infectious Hepatitis.

Section I - Infectious Hepatitis Virus

31. "Communitin".

Section II - Pathology Dept. (1).

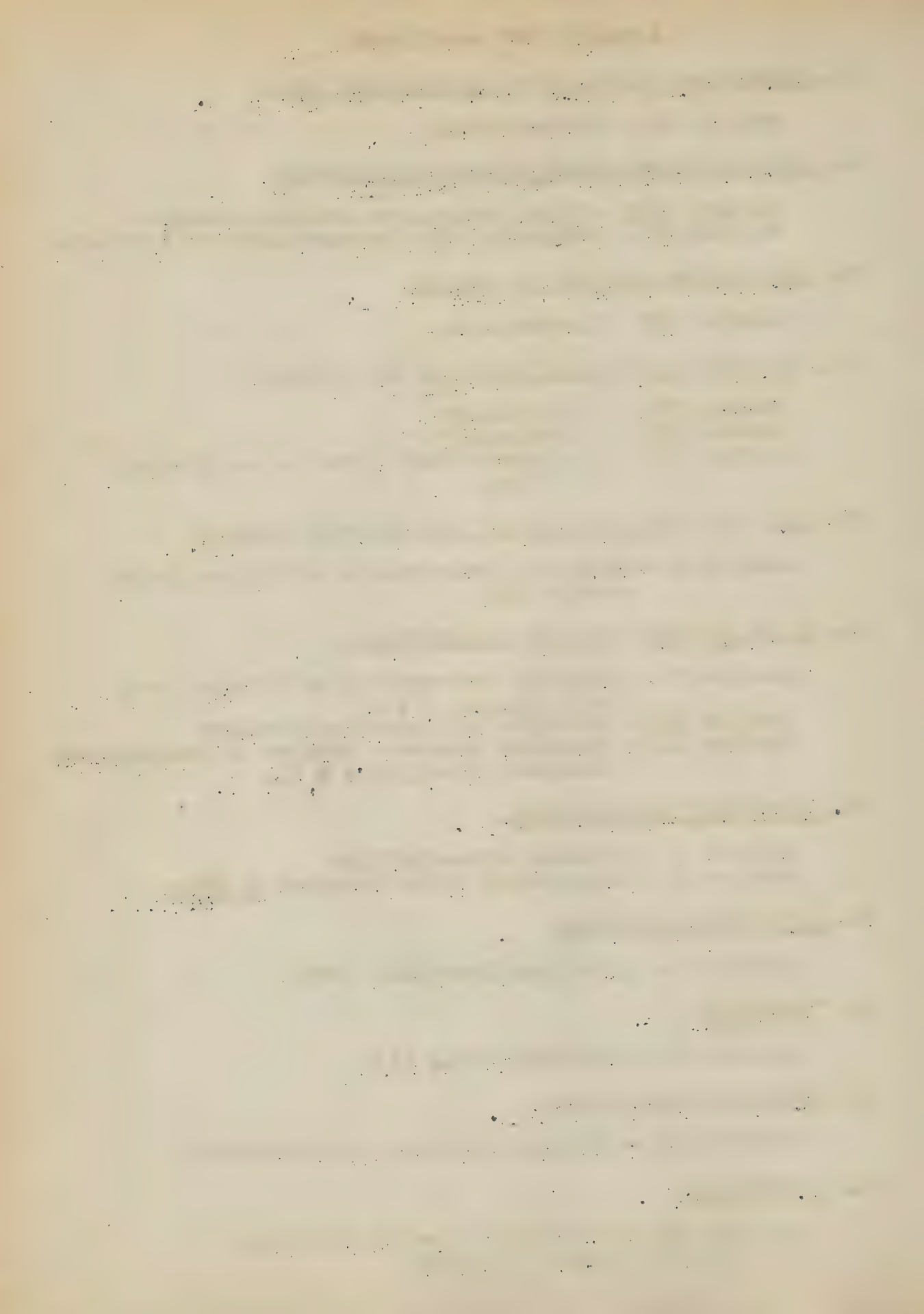
32. Ishihara Color Charts.

Section III - Clinical Division - Ophthalmology

33. Penicillin.

Section III - Penicillin Research Committee

Section XII - Nagao Institute



Appendix "C" (continued)

34. Army Medical College Research Reports.

Section III - Army Medical College Research Reports

35. Studies on Water Supply Apparatus.

Section III - Research Reports - Studies on Communicable Diseases (IV - 1,2,3 & 4).

36. Typhoid Fever.

Section III - Research Reports - Studies in Pathological Fields (9).

37. Treatment of Sea-sickness and Air-sickness.

Section III - Research Reports - Studies in the Field of Otolaryngology.

APPENDIX "D"

Alphabetical List of Institutions Screened (All Roman Numerals refer to Appendix "A")

Agricultural Experimental Station	XXVII
Army Depot for Medical Materials, Yoga	XXVIII
Army Experimental Station, Okuba	V
Army Medical College	III
Chiba Government Medical College	XIII
Educational Requirements for Medical Degree	XXI
Hokkaido Imperial University, Medical School, Sapporo	XVI
Hokkaido Imperial University	XVII
Institute for Infectious Diseases (TIU)	I
Institute of Physical and Chemical Research	VII
Institute for Public Health	XI
Jikei-Kai University, Medical College	XXVI
Kanazawa Government Medical College	XX
Keio University Medical College	IV
Kitasato Institute for Infectious Diseases	VI
Kyoto Imperial University	XII
Kyushu Imperial University, Fukuoka	XXII
Ministry of Health and Social Affairs	XVIII
Municipal Hygiene Laboratory, Tokyo	,VIII
Nagao Instituto	XII
Nagoya Imperial University	XXIII
Navy Medical College	IX
National Research Council	XIX
Niigata Government Medical College	XIV
Okayama Government Medical College	XXIV
Osaka Imperial University	XXV
Research Institute for T.B.	XXIX
Technical Intelligence	X
Tohoku Imperial University, Sendai	XV
Tokyo Imperial University	II
Tokyo Imperial University, Government Institute for Infectious Diseases	I
Warime Research Commission	XXX

Appendix "D" (contingued)

Institutions associated with Universities and reported
under University Heading:

Moringa Penicillin Plant.	III
Army Medical College - Niigata	III
Army Medical College - Kanazawa	III
Criological Institute	XVII
Aeronautical Medical Institute	XV
Research Institute for Acid Fast Bacillus	XV
Institute for Hot Springs Therapy	XVI
Chemotherapeutic Institute	XI
Medico-Chemical Institute	XV
Bacteriological Institute	XX
Leprosy Institute	XXI
Utizino Laboratory for Chemical Research	XXI
Microbiological Institute	XXV
Takeo Institute for T.B.	XXV

No reports rendered--

Morioka Medical College
Amori Medical College
Tokyo Pharmaceutical College
Tokyo Charity Hospital
Showa Isen Hospital
Nippon University, Medical College
Nippon Medical College

I. TOKYO IMPERIAL UNIVERSITY
Government Institute for Infectious Disease

Manufacturing Division

Parasitology Dept.

Colloidal Preparations of Various
Metals and Biologicals

B. Encephalitis Vaccine
B. Encephalitis Epidemiology
Dengue

Acute Liver Necrosis due to
Infection of Shellfish

The Action of Immune Serum on the
Japanese Encephalitis Virus culti-
vated in Vitro.

Infectious Hepatitis virus isolation
and cultivation

Dysentery of Unknown Etiology
occurring on Shikoku

TOKYO IMPERIAL UNIVERSITY

Government Institute for Infectious Disease

Manufacturing Department

Director: Dr. Saburo Kojima

Assistant: Dr. Hidetake Yaoi

This department is responsible for the production of serum, vaccines, toxoids, and other biologic products. Results attained in the Research Dept. are immediately applied in this department.

The laboratories have not been modernized.

Samples of the products of this institute as well as cultures of strains of bacteria used and description of methods used will be forwarded under separate cover.

Attached is a list and description of biologicals prepared.

TOKYO IMPERIAL UNIVERSITY

Government Infectious Disease Institute, Tokyo
Parasitology Department
Dr. Nobutaro Ishii

The laboratory facilities are fairly good in this institute. Dr. Ishii does strictly research work and is probably doing the most important work in Tokyo on medical parasitology. The following subjects were studied:

Kala-azar: Transmission studies. Has transmitted leishmania forms to barnsters by the oral and cutaneous routes. Reprints attached.

Paragonimiasis: Dr. Ishii states that Dr. Yokogawa in Formosa has obtained good results in the treatment by means of emetine plus sulfanilamide.

Drugs: 4, 4' - Diguanidine-diphenylsulfide has proven very effective in the treatment of Kala-azar. Sulfadibrom-benzene found effective in the treatment of bird malaria (reprint attached) Sulfapyridine in experimental spirochetosis recurrentis (reprints attached).

Animal Helminthology: Reprints attached.

COLLOIDAL PREPARATIONS OF VARIOUS METALS AND BIOLOGICALS

Summary of work of Drs. Yonegi Miyagawa and Y. Moriya of the Government Institute of Infectious Disease.

1. Dealing with preparation of antimony powder colloid, silver powder colloid and other metal powder colloids.

Antimony, silver or other metals (Cu, Au, Mg, Zn, Cd, Mg, In, Si, Sn, Pb, As, Bi, S, So, Te, Mn) are evaporated in vacuum by an electric heating unit and dispersed on the surface of crystalline dextrose. Photographs of the diagrams of the apparatus are attached.

The dry powder is stable in vacuum, heat resistant for 5 hours at 80 C and an hour at 100°C. It readily forms colloidal solutions in water having the same solubility as that of dextrose alone (40% or more). The aqueous preparations of the antimony colloids change color slowly due to oxidation of the antimony.

These various colloidal preparations have been used intravenously in both humans and experimental animals in the treatment of certain protezean, metazean and rickettsial infections as described below.

II. Dealing with the treatment of trypanosomiasis, leishmaniasis, schistosomiasis, clonorchiasis, filariasis, rickettsial disease and "lymphogranulomatosis ingrimialis" with antimony or silver powder colloid.

(1) Trypanosomiasis. It is reported that intravenous administration of 1.0 cc of 0.007-0.009 antimony powder colloid solution to mice infected (presumably with *Trypanosoma gambiense*) at a time when the mice were definitely ill resulted in rapid degeneration of the flagellates and their complete disappearance from the blood after two hours. Clinical recovery was complete in one day.

Comparable results were claimed in the treatment of horses suffering from surra (T. Evansi) or dourine (T. equiperdum), with doses of from 50 to 200 cc of a 1% colloidal preparation. Excellent microphotographs show the reported degenerative changes in the trypanosomes.

(2) Leishmaniasis. Data is submitted on the treatment of leishmaniasis in dogs and squirrels. Good results are claimed. The protocols suggest that there were fewer leishmania demonstrable in smears from the organs of the treated animals, that their spleens were smaller and the body weight greater.

One human case of kala azar, eight months duration, was reported cured in 66 days by intravenous injections of the antimony colloid. Apparently the powder used was 3% and was given in doses of 1.0, 1.5, 2.5 -- grams in 50 cc of water. There were no toxic manifestations. A total of ten doses were given in 24 days. A progressive improvement in the blood picture is tabulated.

COLLOIDAL PREPARATIONS OF VARIOUS METALS AND BIOLOGICALS
(continued)

(3) Filariasis. Treatment of 8 cases of human filariasis using various doses of 1% or 3% antimony colloid powder resulted in disappearance of the microfilaria. The higher doses employed sometimes caused anorexia, nausea, vomiting or coughing.

The antimony preparation given to dogs infected with *Dirofilaria immitis* is reported to have killed not only the microfilaria but also the parent worm leading to embolic occlusion of the pulmonary artery.

(4) Schistosomiasis. Five human cases of *Schistosomiasis japonica* suffering from diarrhea and malnutrition but without splenic or hepatic enlargement were treated with the antimony preparation. The 3% powder was used in doses of 0.5, 1.0, 1.5 and 2.0 gm dissolved in 50 cc of water and injected intravenously every other day. The eggs in the feces disappeared after the fourth and eighth injection and did not reappear within a month and one half. Nausea, vomiting and coughing were occasionally observed. The patients gained weight and overcame their anemia. Seventeen similar patients treated with tartar emetic did not show such a favorable response although they were somewhat improved.

Treatment of experimentally infected dogs followed by post-mortem examinations showed that adult worms and eggs had either completely disappeared or were degenerate.

Four severely infected cattle were treated; three recovered completely and one died during the course of therapy. At autopsy adult worms could not be found and eggs in the tissues were degenerate.

(5) Clonorchiasis. Both dogs and human cases are reported to have been cured.

(6) Typhus. During a small typhus outbreak (type not stated) in Tokyo in 1943, seventeen patients were treated with a silver colloidal preparation. One (5.9%) patient died. Among 111 not treated 30 (29%) died. It was claimed that treated patients showed rapid clinical improvement.

Antimony colloidal preparations were less satisfactory, since 10 (34.5%) among 29 patients so treated, failed to survive.

(7) Lymphogranulomatosis inguinalis. One case was treated with the antimony preparation with good results.

III. Dealing with the preparation of dry plasma, dry sera and bacterial toxins. This deals with drying plasma, serum and tuberculin by vacuum at 37° Centigrade. Dextrose is added for reasons which are not self-evident.

The following had been successfully maintained at room temperature for at least one year:

- a. Suspensions of B. coli (mixed with silicates)
- b. Lymphogranuloma venereum
- c. Cold liver oil
- d. Red blood cells
- e. Colloidal suspensions of antimony
- f. Colloidal suspensions of silver
- g. Tubercle bacilli
- h. Tuberculin (for skin testing)
- i. Human sera (immune and normal)
- j. Hyperimmune serum (diphtherium; antitoxin titres checked before and after)
- k. Plasma
- l. Quinine
- m. Plasmochine
- n. Ricketosia

IV. Describing preparations of fat powder colloid and its use.

By intermittently spraying fine droplets of oil on warm dextrose crystal kept under a low vacuum, powdered preparations of cold liver oil, butter, neutral fat, etc., were prepared. They contained from 1 - 3% of fat and could be added to water as 10-20% mixtures. No fat globules were visible under the microscope. If the aqueous preparations are left at room temperature in the open air some visible separation of fat occurred after 10 hours.

The 10-20% mixtures were used for intravenous injections in humans in doses of 50-150 cc every 4th day. An interesting series of weight curves were accumulated showing considerable improvement in malnourished patients.

V. Describing preparation of a "powder colloid of whole blood" and its use. Small amounts of whole blood are added repeatedly to dextrose and dried in a vacuum between each addition. This mixture of dried powdered whole blood and dextrose has been put into solution and given to humans by the intravenous route for the treatment of anemia, both acute and chronic. With use of the larger doses, hemoglobinuria "occurred with no harm."

VI. Describing preparation of "powder colloid of bacteria" and its antigenic properties. Bacteria disintegrated by various procedure such as freezing and crushing, "colloid mill method" "Weimarus" method and the supersonic wave method, are dispersed on the surface of dextrose crystals in the same amount to dextrose powder, thorough mixing, drying in a vacuum and repetition of the same process.

COLLOIDAL PREPARATIONS OF VARIOUS METALS AND BIOLOGICALS.
(continued)

- 4 -

VI. (continued)

The preparations are readily soluble in water, forming "typical milky turbid suspended solutions". It is claimed that studies in both humans and animals show the preparations to be more antigenic and less toxic than bacterial emulsions. Also the dry powder is more stable than the usual liquid preparations.

Samples of these preparations are being forwarded under separate cover.

TOKYO IMPERIAL UNIVERSITY
Institute for Infectious Disease
Prof. Yonegi Miyagawa and Staff

I. Vaccine - Japanese B Encephalitis (Kitsoka)

Vaccine consists of 10% of 0.2% formolinized (suspension) of mouse brain. (in saline). Two subcutaneous injections of 0.8 and 1.0 cc are given.

One thousand individuals in test area vaccinated. However, no outbreak occurred so no human evaluation was possible. Serum from a greater portion of those vaccinated showed 1,000 to 10,000 neutralizing antibodies (per cc). (Neutralizing antibodies against 1,000 to 10,000 M.L.D. of virus).

Vaccine standardization:

Three doses of vaccine 0.3, 0.5, and 1.0 cc given to 20 gram mice at five day intervals. Two weeks later mice resist 100 or 1000 intracerebral doses. (of virus?)

Five tenths cc of serum from vaccinated individuals inoculated subcutaneously protects mouse 12 days later against 100 or 1000 intracerebral doses. Monkeys receiving 10 cc similarly protected in five days.

II. Epidemiology of Japanese B. encephalitis.

Kitaoka (1938) Tokyo Iji Shinshi' (weekly medical journal) reports isolation of virus in the field from culex pipiens var. pallens and aedes albopictus. Anopheles sinensis found on laboratory experimentation to be a vector. Tranovarian transmission was noted.

In regions where disease prevalent-antibodies were found in a "normal" man (80-90%, dog and pigs (85%), horses (98%), cattle (88%). These observations were in the Tokyo area. Sera from Hokkaido was negative. Sera from Kobe and Osaka showed a lower percentage of positives. The percentile difference showed a relation also the mosquito incidence.

Active infection has not been noted in horses and cattle.

III. Dengue.

Claims for the isolation of a phenol susceptible angue virus, some years ago, with the same filtration size as the yellow fever virus have been made. A sample of this virus is to be forwarded under separate cover.

Japanese studies with this virus showed no difference between it and the Java and Malayan strains.

A strain of dengue virus, isolated in 1943 by injecting patients whole blood intra cerebrally into mice, is now in its

THE [illegible] OF [illegible]

[illegible text]

[illegible text]

CHAPTER [illegible]

[illegible text]

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THE [illegible] OF [illegible]

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CHAPTER [illegible]

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III. Dengue (continued)

200th mouse transfer. (With this virus) Two to three per cent of mice show paralysis two to three weeks after injection (no encephalitis).

Thirty-five hundredth cc of a 10% emulsion of the brain from the tenth mouse passage inoculated subcutaneously into humans, caused fever (39°) in eleven days that lasted for five days. A maculopapular rash lasting 20 hours appeared thirteen days post-inoculation. Patients serum 12 days after illness, produced (?) encephalitis in 100% of the injected mice. Patients serum three weeks after inoculation neutralized mouse virus. The potency of the virus is constant between 10^{-4} (.0001 cc) to $10^{-5.5}$ (.00005 cc).

One experiment on human vaccination with 10% of a 0.25% formalinized mouse brain suspension (in saline) given in three doses of 0.5 cc, 0.8 cc and 1.0 cc at weekly intervals, protected against 0.2 cc and 0.7 cc subcutaneous injections of infected human serum. The control came down with a typical case of dengue.

TOKYO IMPERIAL UNIVERSITY
Government Institute of Infectious Disease

Acute Liver Necrosis due to Infection of Shellfish (Oysters and
Mussels)

Toxin has been extracted from liver of the poisonous mussels and oysters by Dr. Akiba (Bacteriology Dept. of Tokyo Imperial University). It is water and alcohol soluble and thermostable. Immune responses were not studied. Toxin injected into mouse, cat, dog, rabbit, reproduced hepatic lesion; not in rat. Cause of retarresistance not known. Transplantation of normal mussels and oysters, to affected regions in spring, induced toxic properties; conversely toxic shellfish, transplanted to other regions, lost their toxic properties after a few weeks. Studies of plankton, in affected regions, were unrewarding.

Reprints on the pathology and clinical findings are attached.

TOKYO IMPERIAL UNIVERSITY

Government Institute for Infectious Diseases, Tokyo

Yasuo Kawakita

The action of Immune Serum on the Japanese Encephalitis Virus
Cultivated in Vitro.

A "so-called" Immune Horse Serum prepared by inoculation with 10% mouse brain virus (Strain Kalinina isolated in 1935) over a period of five months, a total of approximately 2,250 cc was injected, inactivated virus in vitro and protected mice (8 to 10 gm) in a dilution of 1-10,000 (100 M. L. D.).

The Immune Serum also inactivated the virus in a culture flask - after 24 to 48 hours incubation at 35°C. Virus cultivated in chick embryo (9 day old) were likewise inactivated by the Immune Serum. (0.3 cc of serum in 2.7 cc Tyrodes solution inoculated with one drop of infected chick brain tissue.)

The possibility of serum Therapy in Japanese encephalitis is indicated. No human experimentation is reported.

TOKYO IMPERIAL UNIVERSITY
Government Institute for Infectious Diseases
Dr. Masami Kitaoka

Infectious Hepatitis virus isolation and cultivation.

Experiments were conducted involving numerous animals and techniques which resulted with claims for the isolation of the virus and mouse infection (subclinically) with transmission from generation to generation. This virus appears to be about the size of the herpes virus. The active agent produced some degree of immunity in mice, and the neutralizing antibody was detected in the sera of human convalescents. This new virus does not belong to the spontaneous pneumotropic mouse viruses; nor has immunological relation to the influenza-A-virus through cross immunity tests.

Cultivation of the virus in fertile eggs is claimed - Good-pasture Technique is utilized.

TOKYO IMPERIAL UNIVERSITY

Government Institute for Infectious Diseases

Dysentery of Unknown Etiology occurring on Shikoku.

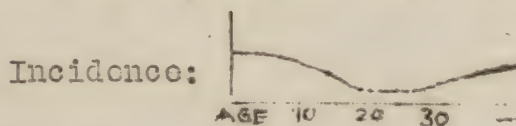
Dr. S. Kojima

Dr. Kojima is an authority on Enteric infections and Director of The International Salmonella Center for Japan. Recently several new species of Salmonellae have been isolated in his laboratory. Cultures of these are being obtained. The new species were not isolated in conjunction with any large outbreaks of disease but were from individual cases.

Questioned concerning dysentery, whooping cough and gonorrhea vaccines, Dr. Kojima did not consider them very effective. Concerning Influenza vaccination, he felt that the Japanese vaccine was effective for three months. He has an "A" influenza virus but his "B" virus is no longer viable. A culture of the "A" virus was requested from him. He in turn would like to procure the "B".

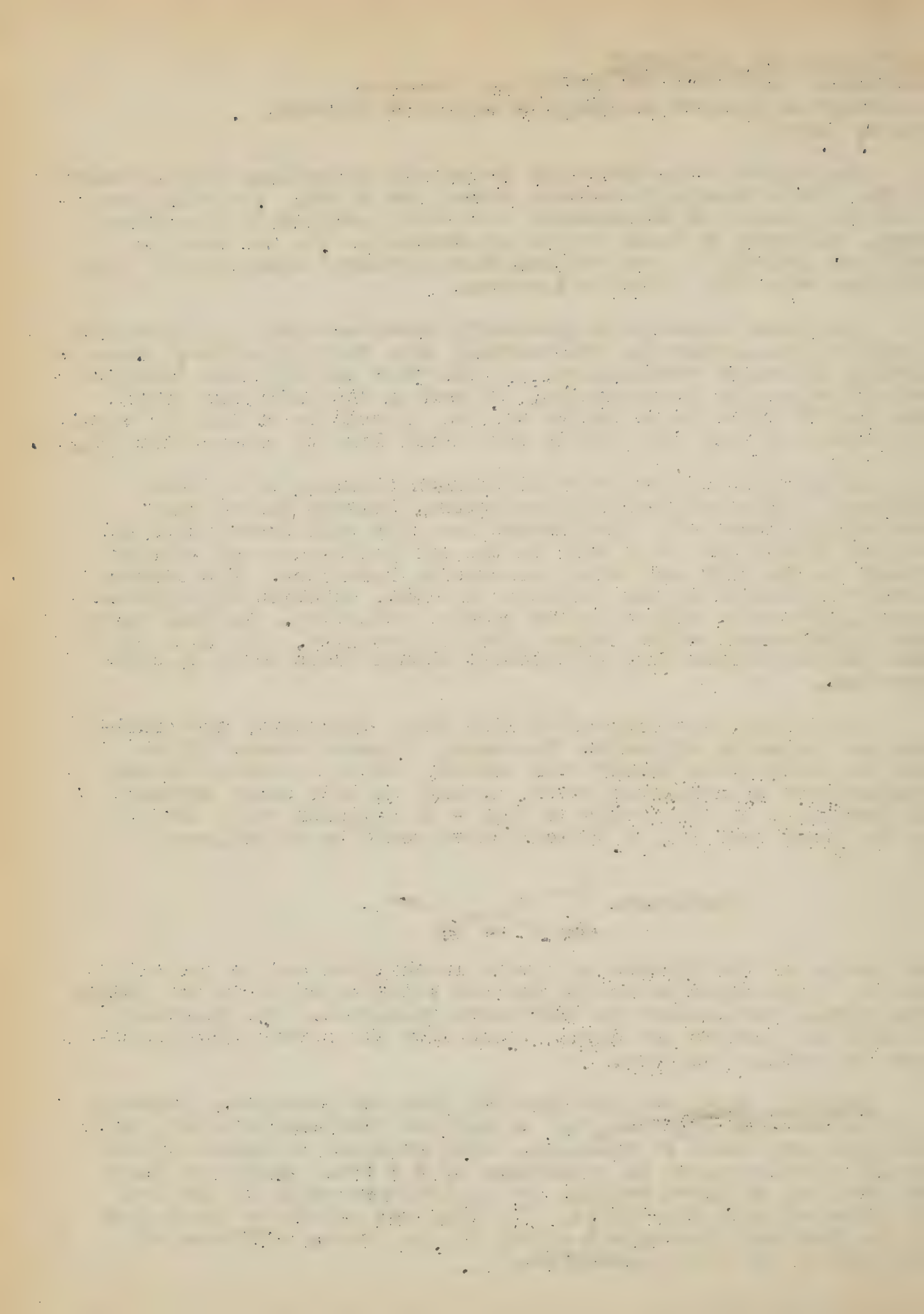
An epidemic of dysentery of unknown etiology that first occurred in Takamatsu-Kagawa Prefecture, Shikoku Island was thoroughly discussed. The disease has only been encountered on the one island and there only in the one prefecture and in that mainly in the city and towns surrounding Takamatsu. The disease first was brought to his attention in 1944, at which time there were 4,000 cases, with a thirty percent mortality. In 1945 there were 3,000 cases, with a twenty percent mortality. The disease is most prevalent from June to October, though cases occur up into December.

Clinically, the disease is like Shiga dysentery, and exhibits the following symptoms: Tenesmus, frequent stools (30 to 100 per day); stool bloody with mucous; severe headache; coated tongue; loss of appetite; fever, as high as 103; onset sudden; the incidence by age groups is high - in children under 10 and in the group over 30. A typical curve would be as follows:



The course of the disease is severe in children and in the older groups. Mild cases occurring and not being reported in the middle aged group, may account for the curve presented. The duration is from one week to ten days. Those with the severe type infection die within ten days.

Shigella shigae was not isolated from any patients. However, a paracolon-like organism, now called the "Obayashi strain", was isolated from about 20 patients. This organism is agglutinated by the patients serum in a dilution of 1 - 800. Shiga and Flexner strains, of known origin, are agglutinated only in the low dilutions of sera (1 - 100.). The Obayashi strain is considered as the possible etiological agent, by the above. Cultures of this strain are being produced.



In therapy an oral vaccine, prepared with this strain, was tried in a few instances without success. A limited amount of sulfaquanidine, available and used, seemed to be effective. However, insufficient drug did not permit large scale use.

II
TOKYO IMPERIAL UNIVERSITY, Medical College

Institute of Pharmacology and Pharmacy

Pathology Department, Serology Section

Brain Research Institute

Ophthalmology Dept.

Division of Physiotherapy and Internal Medicine

TOKYO IMPERIAL UNIVERSITY

Institute of Pharmacology and Pharmacy

Headed by Prof. Kenzo Tamura.

Associates: Prof. Ryotaro Asuna, Morizo Ishidate, Yoshito
Kobayashi, and Kikuji Tokita.

The last five years, due to limited laboratory equipment and supplies, very little new research was conducted. The following subjects were studied:

Digicorin: A glucoside of Digitalis isolated and structure determined by Tamura, Ishidate, Kobayashi and Tokita.

Use: Cardiac stimulant

Action: Less toxic than digitalis

Reprints and samples attached.

Vitacanthor: "P-oxocanthor"

Synthesized by: Tamura, Kihara, Ishidate

Use: Cardiac Stimulant

Action: That of stimulation

Reprints and samples attached.

Bufotalis: "Senao" Extracted by Kobayashi

Use: Cardiac stimulant

Reprints attached.

Estrogenic substances and Pituitary preparations. Reprints attached.

Copy of Japanese Pharmacopoeia is being forwarded under separate cover.

TOKYO IMPERIAL UNIVERSITY

Pathology Department, Serology Section

Dr. Tomio Ogata

I. "Communitin", a new drug studied by Dr. Ogata is of bacterial origin and used in the treatment of pyogenic infections and eczema.

The clinical use of bacterial filtrate was suggested by the fact that small doses of such filtrates will inhibit the Shwartzman phenomenon and Dr. Ogata believes the active substance producing the Shwartzman phenomenon stimulates the reticulo-endothelial cells to produce a substance harmful to bacteria.

The preparation of the filtrate is as follows. B. Coli are grown on Agar plates for 20 hours and washed off with saline. the Saline suspension is centrifuged and the supernate filtered through a Sietz or Berkefeld filtre. This concentrated filtrate is diluted about 100 times and given in 1 cc subcutaneous injections daily for 5 to 7 days.

Approximately 1,000 patients have been treated with good clinical results and there are case protocols on about 300 cases.

Dr. Agata believes the saline material is a carbohydrate and he and his associates are working on its isolation.

Attached is reprint with a local translation of same and one vial of the drug.

Reference is made to Journal of Experimental Medicien, Jan. 1, 1936, Vol. 63, No. 1, page 59-68, Inhibition of the Shwartzman Phenomena, by Tomio Ogata, M.D.

II. Studies on the Precipiton Reaction are also undertaken in the Serology Section. Attached is a reprint on same.

TOKYO IMPERIAL UNIVERSITY, MEDICAL COLLEGE
Brain Research Institute

This institute appears to be a very loose unit affair; an institute in name only. It is directed by the professor of psychiatry Dr. Yushi Uchimura.

Research work is divided into three fields - Anatomy, psychology, and hereditary Biology. The psychiatry and neurosurgical wards of the University Hospital afford clinical material in connection with projects of the institute. Current projects are:

Effects of the Atomic bomb on the Brain and Nervous System.

Electroencephalography studies on epileptics, on effects of drugs on the brain, and comparative studies of waking and sleeping states.

Mental development of twins.

Histology of the brains of genius.

TOKYO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Projects for the Improvement of Vision (National Research Council)
Ophthalmology Dept. - Prof. Yoshiharu Shoji

The major objectives and accomplishments of the National Research Council program are summarized in the attached reports submitted by Dr. Shoji. According to Dr. Shoji the myopia problem in Japan involves .15% of the population. Within this group about 20% have a myopia of three diopters or more and these are all due to elongated eyeballs and are incurable. Eighty percent have a myopia of less than three diopters and among this group one in five is due to spasm of accommodation which can be alleviated by atropine. At present fewer people are developing myopia and this is related apparently to the fact that there have been fewer students doing close work.

Professor Nakejima has been working with a hormone known as "melanophoren hormon" which is said to improve night vision in humans.

Under separate cover, three books and a set of reprints representing the work of Dr. Shoji, are being forwarded.

TOKYO IMPERIAL UNIVERSITY

Medical Department, Division of Physiotherapy and Internal
Medicine.

Prof. Takayoshi Misawa

Investigations were conducted on allergic diseases and hot springs therapy. There is very little hay fever in Japan, probably due to lack of windblown hay fever producing pollen. There is no ragweed pollen. Food allergy is not uncommon and the most common allergy producing foods in Japan were Eggplant, Bamboo sprouts, spinach, sea fish and buckwheat. Prof. Misawa believes the histamine content of their foods is the cause of their producing allergic symptoms.

Treatment used is Vitamin D and Calcium Salt therapy. Injection treatment with antigens is not used, but Histamine injections are thought to be beneficial.

Reprints of Dr. Misawa's research work, published since 1940, are forwarded under separate cover.

III ARMY MEDICAL COLLEGE, Tokyo

Clinical Division

Biologic Manufacturing Division

Parasitology Section

Physical and Chemical Laboratory

Penicillin Research Committee

Manufacturing Division, Niigata

Dept. of Pharmacology

Kanazawa Branch

Field Manuals

Research Projects and Findings

Organization of Japanese Army Medical Dept.

ARMY MEDICAL COLLEGE

Clinical Division

Chief of Surgery - Colonel Nagae (Mayo 1935-1936)

Surgery is done according to accepted procedures and no new techniques have been devised. There has been no experimental or clinical research of importance or of an original nature.

Ophthalmology - Colonel Yagamoto

Original work carried out during the war consisted of studies of color perception and extending the work of Ishihara by development of a new color chart for the detection of fatigue in color vision. Some work has been done on the use of the color blind to detect camouflage. Some thought has been given to the development of the so-called "6th sense" in the blind.

Maxillo-facial surgery - Lt. Col Matsuki

Plastic surgery - Col. Toda

Urology and dermatology - Col. Tanahashi

Radiology - Maj. Misanou

Internal Medicine - Col. Hirobunii Osuzu

The Department of internal medicine has been working mostly on clinical research in tuberculosis and in carrier detections in typhoid fever. No significant research has been conducted.

Orthopaedic Surgery - Col. K. Takigawa

Battle fractures are handled by skeletal wire traction and casting with windows. Wounds are left open and not packed. Secondary suture is used in suitable cases.

Department of Neuro-Psychiatry - Col. Keisaburo Suwa

Located in separate building, called the "Konodai Insane Hospital". Bed capacity about 700. Patients mostly psychotics with a few war neuroses and organic neurological cases, including brain injuries. It is worth mentioning that paresis accounts for only 5% of admissions as contrasted with 19% in civilian mental hospitals. Treatment was being carried out along the line of accepted principles. Careful records and statistics were being kept but there were no research projects worthy of note.

ARMY MEDICAL COLLEGE, Tokyo
Biologic Manufacturing Division
Director: Col. Inouye

Due to destruction of the buildings, this section has moved its plants to Niigata and Kyoto. However, Col. Inouye and part of his staff remained in Tokyo.

Vaccines used in Japanese Army are: (innoculations are given as indicated below)

Typhoid, paratyphoid A, paratyphoid B - mixed - routine

Smallpox - routine

Typhoid - Control measure in face of an outbreak

Paratyphoid A - " " " " " " "

Paratyphoid B - " " " " " " "

Cholera - " " " " " " "

Plague - " " " " " " "

Meningitis - " " " " " " "

Typhus - " " " " " " "

BCG - to all tuberculin negative soldiers

Tetanus - Toxoid in experimental stage

Gas Gangrene - Toxoid in experimental stage

Cholera strains used were three isolated recently from an outbreak in Shanghai. Plague cultures were isolated from four human cases in Burma and Manchuria.

The BCG immunization program has been in effect since 1942. Approximately 20-30% of all men joining the Army received BCG.

In 1945, the vaccines were prepared in a dry form to prolong their potency. They never came into practical use.

Vaccines were manufactured in Japan, Manchuria, North China, South China and Singapore.

Procedures employed in producing vaccines are attached.

Visits of the Niigata and Kyoto plants are anticipated.

ARMY MEDICAL COLLEGE, Tokyo
Parasitology Section,
Dr. H. Osuzu

Very little research work has been done on parasitic disease.
The following subjects were studied:

Filariosis: Treatment of cases of heniatochluria with colloidal antimony plus oral administration of picric acid. Good results reported.

Complement Fixation Reactions in Malaria: Specific antigens for P. Vivax, P. Malarial and P. Falicparun are prepared from the plasmodia obtained from human cases. Antigen prepared in an Na OH solution and left at ice box temperature - good for one week. Claim test is species specific with no cross reactions.

Treatment of Malaria: Sheet attached.

These subjects are covered in "A new Book on Tropical Medicine", edited by Prof. Dr. Miyagawa, 1945, which is being forwarded under separate cover.

ARMY MEDICAL COLLEGE, Tokyo
Physical and Chemical Laboratory
Director: Col. Goro Tatsui
Assistant: Major Yoshikaru Yamoshina

The laboratory equipment in general is very poor.

This laboratory is primarily a control lab for the Japanese Army. Routine tests are made on water, milk and all drugs and chemicals bought by the Army for their use.

Very little research is done.

The attached report indicates some synthesis attempted in the laboratory. None of this material has been tried clinically.

A copy of Japanese Army Pharmacopoeia will be forwarded under separate cover.

ARMY MEDICAL COLLEGE
Penicillin Research Committee

This committee was organized in February 1944 and its Direction appears to come from the Army Medical College. Outstanding Japanese scientist from many fields are associated with it.

The Nagao Institute did most of the original culture work where more than 1000 strains of P. Notatum were isolated-eleven of these were productive. Two strains (#233 & 176) have been utilized. Total commercial production was reputedly 1500 gms. of finished penicillin per month with smaller amounts produced in research laboratories and some crude local production in other places.

Commercial production is done in the Moringa plant at Mishima (capacity 1000 gm. per month). The finished product is crude according to our standards.

Attached are photographs of the Mishima plant and a local translation of a report on research and production by Dr. H. Umezawa.

ARMY MEDICAL COLLEGE
Manufacturing Division - Miigata

An alum precipitated polyvalent toxoid-containing V. septique
Cl. histolytica, Cl. welchii, Cl. neryii may have some merit.
Report of this work in reprints to be submitted upon receipt by
this committee.

ARMY MEDICAL COLLEGE
Manufacturing Division-Niigata

Gas Gangrene Vaccine

The attached formulae was furnished this office by the Japanese in lieu of the original reports which have been sought but not secured.

Also attached is formulae for preparing Tetanus vaccine.

Reference is made to Section III of Appendix "A" to previous reports.

ARMY MEDICAL COLLEGE
Dept. of Pharmacology
Col. G. Tatsui

Insect Repellents

Worked on the production of D.D.T. Less than 1 kilo was prepared due to shortage of chlorine and benzene. It was found very effective against lice, but only sufficient quantity was available for experimental purposes.

Information of use of D.D.T. by the American Army, was obtained thru News Agency from Germany in August, 1944, when Germans discovered it was being used on the skin of war prisoners.

Prof. O. Kaburaki and Prof. H. Mori at the Agricultural Dept. of Imperial University, prepared a small amount (after hundred grams) with which the Navy experimented.

The medical department employed pyrethrium as the main insecticide. Derris was not available to any great extent.

The repellents used were lemon grass oil, Citronella and a mixture of Benzopheriene and Thymol, which were found very effective against mosquitoes.

Paris green and annon-arsenic compound Ferric Arson were used against mosquito larva.

Attached is a summary of research on Synthesis of D.D.T.

ARMY MEDICAL COLLEGE, Kanazawa
Dr. M. Yabe, Director

The use of B.C.G. in the Army and the preparation of a better B.C.G. has been the prime duty of the above in his connection with the Army.

Reprints of data have been procured. Further data is to be submitted by mail. These items will be forwarded under separate cover.

ARMY MEDICAL COLLEGE, TOKYO
Field Manuals

Manuals for distribution to Japanese medical officers, staff officers and enlisted personnel, dealing with the subjects listed below, have been collected and delivered to A.T.I.S., GHQ, AFPC, for translation and forwarding:

1. Bacteriological examination methods for contagious diseases and for food poisoning.
2. Methods for inspecting meat.
3. Immunizations.
4. Field medicine.
5. Unit dental care handbook for medical officers.
6. Tropical hygiene and sanitation.
7. Psychiatric examinations.
8. Chemical warfare detection methods.
9. Toxicologic examinations.
10. Sanitation and hygiene in cold areas.

ARMY MEDICAL COLLEGE, Tokyo
Research Projects and Findings

Attached is a list of the research projects of the Japanese Army Medical College and an English summary of the findings.

Reference is made to the report on Wartime Research Commission, Section XXX.



ARMY MEDICAL COLLEGE, Tokyo
Organization of Japanese Army Medical Dept.

Attached is information from the CG, Japanese Army Medical College on:

1. Total number of doctors, scientists, nurses and other officers and enlisted personnel.
2. Total number of hospital, laboratories and other fixed and mobile units.
3. Distribution of medical personnel and units in Japan and in occupied areas.
4. Medical education, before and during war, in the Army.
5. Tables, of organization and equipment, of medical units.
6. Lists of casualties during the war, with breakdown as to cause and effect.

and the curriculum of civilian medical schools before and during the war, for doctors, dentists and nurses.

Answers to questions 2,3, and 4 are in the process of translation and will be forwarded under separate cover.

IV

KEIO UNIVERSITY MEDICAL COLLEGE

Chemistry Dept.

Department of Parasitology

Anatomy Department

Journal of the Faculty

KEIO UNIVERSITY MEDICAL COLLEGE

Chemistry Dept.

Director: Dr. Yuji Sueyoshi

Main investigations carried out on Transformation of carbohydrates from fats, on coagulation of blood, and on Vitamin and nutrition studies.

Laboratories were destroyed during the war.

Attached are reprints of recent research work.

Importance of Linolic acid in Nutrition

C - Ajitaminuse

Transformation of Carbohydrate from fats

Blood Coagulation

Miscellaneous

KEIO UNIVERSITY MEDICAL COLLEGE
Anatomy Dep. Files - Ossifera Folio Anatomica Japonica

The attached is a catalogue of the volumes of this journal published since April 1941.

Journals are being forwarded under separate cover.

WUHO UNIVERSITY MEDICAL SCHOOL
Department of Parasitology
Prof. Dr. T. Koidzumi

Dr. Koidzumi and associates have done most of their work for the past fourteen years on the properties of the toxic substances of *Ascaris*. Subject covered were:

Ascariosis: Collected papers on this subject being forwarded under separate cover.

Provocative Measures in Malaria: It was stated that stibisen is very effective in bringing malaria parasites into the peripheral circulation. Much better than adrenalin.

Fever Therapy in Paretics: Plasmodium ovale utilized. Stated to be more effective than P. vivax or P. malariae. Also easier to control and to effect a cure of the malaria infection.

KEIO UNIVERSITY MEDICAL COLLEGE
Journal of the Faculty - "Keio Igaku"

The attached is a catalog of the volumes of this journal published since December 1940 issue.

Publication was discontinued after the April 1943 issue.

The journals are being forwarded under separate cover.

APPENDIX

V ARMY EXPERIMENTAL STATION, Okinawa

Medical Section

General

OKUBA ARMY EXPERIMENTAL STATION

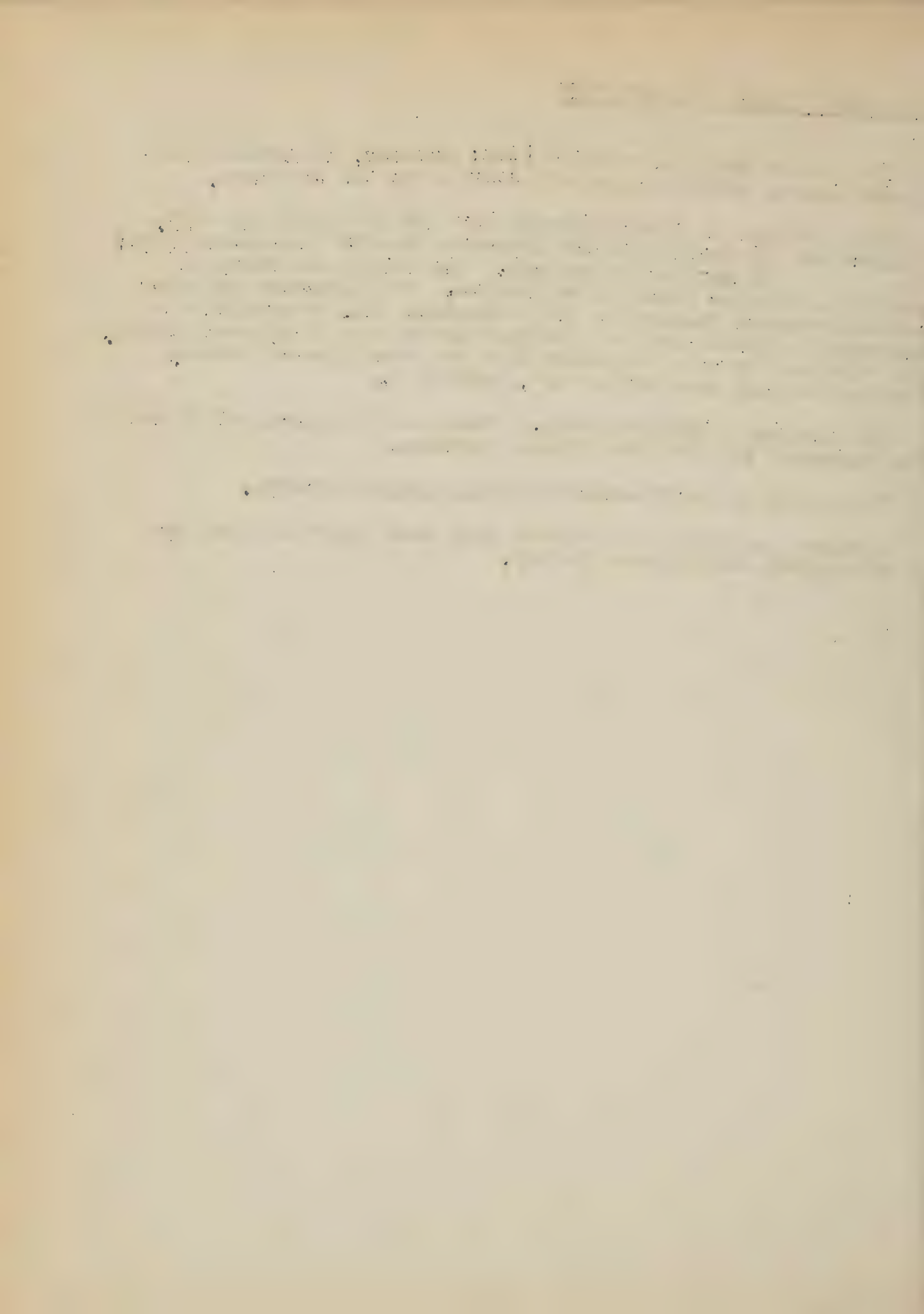
This is an Ordnance installation; however, it appears that Ordnance was an overall Technical service to the Japanese.

This station is divided physically and by fields of work. For instance, #6 Section is CWS (Screened by CWS representatives) #7 Section is Medical. Its delegated function pertains to weapons relating to physics. The director is Major General Matsusaki (Medical). As a sideline Gen. Matsusaki was interested in increasing the individuals vigor and sensual acuity. It is reported by other Japanese that he accomplished little. Reference is made to Appendix "A", Section V.

#10 Section is Shipbuilding. There was a medical staff but it is reported that it accomplished nothing.

These are the only sections having medical groups.

Weapons pertaining to physics have been reported upon by the Scientific Intelligence Survey.



OLUBA ARMY EXPERIMENTAL STATION NO. 7 (Medical Section)

Presentation of work by Surgeon Major General Matsusaki and staff. The only subject of interest was "Neocyamine".

This chemical is employed in photography as sensitizing agent to infra-red. The basic idea advanced by General Matsusaki et. al. is that if more infra red rays can be brought into the body a beneficial effect will be produced. They have administered neocyamine to experimental animals and to approximately one million humans. It is claimed that the drug is beneficial in the treatment of frost bit, uninfected and infected wounds, carbuncles, erysipelas, pyemia, burns, tuberculosis, lymphadenitis, and leprosy.

The drug is known here as Koha A (Neocyamine). Approximately 300 chemical derivatives have been prepared. Of these about 100 have been tested in animals. Koha A is reportedly non-toxic. The usual dose is 1 or 2 tablets by mouth daily or 2 cc (0.5mg) of ~~a~~solution.intravenously.

A number of laboratory and clinical reports were submitted in support of the claims made. Most striking are the claims for the successful treatment of the leprosy. Among 371 lepers treated 81% were said to have shown evidence of improvement. A lengthy series of photographs to support the claim were presented.

Attached are reports in Japanese script concerning Koha A. Samples of the drug are forwarded under separate cover.

VI KITASATO INSTITUTE FOR INFECTIOUS DISEASE, Tokyo

Dr. T. Kitashima, Director

VII INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH

Physiological Chemistry and Nutrition

VIII MUNICIPAL HYGIENIC LABORATORY, Tokyo

Municipal Bacteriological Laboratory

X TECHNICAL INTELLIGENCE .

(Accession list submitted in periodic reports)

KITASATO INSTITUTE FOR INFECTIOUS DISEASE, Tokyo

Director: Dr. T. Kitashima
Assistants: R. Kobayshi, Bacteriology
Y. Kusana, Preventive Medicine
K. Nagano, Parasitology
Y. Watanabe, Bacteriology

I. Bacteriology

Principal research work has been done on Tuberculosis, Leprosy Typhoid and para typhoid fever, and dysentery. Work on Tuberculosis has been chiefly differential studies on bovine, human and attenuated strains. Leprosy studies have been on the pathogenicity and transmission based upon Watanabe's "so-called" filterable rat strain. Typhoid and paratyphoid studies have been on prophylaxis, attenuate strains for vaccination and inoculation versus oral vaccination. Dysentery studies were on prophylaxis, oral vaccination, and differentiation.

II. Parasitology

Very little research has been done in the last ten years.

Concerning schistosomiasis, the cow is the most important reservoir host and is more important than man in the transmission of S. Japonicum. Lime nitrogen has been found effective in the control of snails.

Concerning mosquito control, the breeding of Aedes Albopictus in pools in Tokyo Area has been controlled by means of a minnow Oryzias Latipus.

Attached is a list of studies published during the last five years.

Archives of the institute since 1940 will be forwarded under separate cover.

It appears that such eminence as this institute once had is rapidly fading into the past.

INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH
Physiological Chemistry and Nutrition
Dr. Waro Nakahara

(From a report, Chemical Research carried out at the Institute of Physical and Chemical Research, dated 25 September, 1945, of Scientific Intelligence Section GHQ, AFPAC.)

No military research was carried out.

Dr. Nakahara stated that he had discovered a new specific dietary requirement; a lactation factor made up of two constituents, one an adenylic acid compound and the other, peculiarly enough, ortho amino benzoic acid.

Estimate by the interrogating officer was that Dr. Nakahara was a scientist of high order and truthful.

MUNICIPAL HYGIENIC LABORATORY, Tokyo Prefecture
Municipal Bacteriological Laboratory

I. Hygienic laboratory and director Dr. Fusao Ishiwara, is a governmental and municipal institution serving public agencies, physicians, and private citizens.

It is divided into four sections - one for water analysis, and one for food analysis, another for clinical analysis including X-ray, and the other chemical analysis.

Production of biologics is limited to diptheria toxoid and dried plasma.

Laboratory appears to be in a "rundown" condition.

II. Bacteriological Laboratory, directed by Dr. S. Kanno, is a governmental and municipal institution which prepares biologics and conducts surveys. Typhoid, typhoid Para typhoid A & B, Cholera, and Dysentery vaccines were prepared. Surveys for carriers of typhoid, paratyphoid A & B, Dysentery, Cholera, Diptheria, Meningiocci, and Plague were carried out.

Research work was unimportant.

IX NAVAL MEDICAL COLLEGE

Organization

Preventive Medicine

Department of Pharmacy

NAVAL MEDICAL COLLEGE, TOKYO
Director, Vice Admiral Y. Kanbayasi

Research Organ

Kenkyubu in Naval Medical College was established in Autumn, 1943.

Object

The study of the medical science and pharmacology which is necessary for the sanitation and hygiene of the navy.

Organization

Chief of research.

Surgeon Rear--admiral Osuka, Kanai, Yokokura.

Staff of general affairs.

Surgeon Commander--Watanabe, Ota.

Departments.

<u>Section</u>	<u>Department Head</u>	<u>Number of members</u>
System of Education	Surgeon Capt. Yosida, Murakama	3
Medicine	S. Cap. Kanai, Ariga	3
Surgery	S. Cap. Tomita	2
Oto-rino-pharyngology	S. Cap. Nakamura, Yosida	
Ophthalmology	S. Cap. Funakawa, Comm. Tanaka	
Dermatology	S. Comm. Nakauchi	
Roentogenology	S. Rear-adm. Yokokura, Comm. Norioka	
Bacteriology	S. Cap. Miyaoka, Arima, Kawai, Comm. Hatakeyama	6
Hygiene	S. Comm. Kiyohara, Toda, Nakamura	4
Pathology	S. Cap. Murakami, Comm. Ota	1
Pharmacology	S. Cap. Murahara	4

Plant of study

At the beginning of the financial year each departmental head makes a plan over the thesis of the practical studies, viz: Sanitation and hygiene of the Navy, Prevention & Treatment of sickness and wound, Prevention of gas casualties.

Publication of the result of studies.

(1) Kenkyubuho, Med. Journal (2) Kaigun Gunikai Zassi, Research record. It is claimed that records were destroyed.

The preceding is extracted from a local translation.

Education in the Naval Medical College

1. Type of students

- (1) The surgeon education (I class--beginning course) 6 months. To educate young doctors, who graduated at a medical college in that year, basic naval medicine.
- (2) Education for chief surgeon (II class--Junior course) 6 months. To educate the surgeon lieutenant, to become the chief surgeon of the naval ship.
- (3) Education of a special medical course. (III class--senior course) 2 years. To educate a medical officer as a specialist.

2. Research at the college.

- (1) The department of research was established in the August 1943. Naval sanitation and hygiene were studied.
- (2) Classification of the studies. Infectious disease and parasitic disease in the tropic, prevention and treatment of the tuberculosis, battle wound, aerial hygiene and hygiene of the submarine were principal topics.
- (3) The results of Research. The results of these studies were published in the Kaigun Guniksi Zashi.

The proceeding is extracted from a local translation.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
PUBLISHED WEEKLY
CHICAGO, ILL., MAY 1, 1919
Vol. 34, No. 19

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION
PUBLISHED WEEKLY
CHICAGO, ILL., MAY 1, 1919
Vol. 34, No. 19

NAVY MEDICAL COLLEGE, TOKYO

Preventive Medicine

Surgeon Rear Admiral S. Yokokura, Associate Chief of Research

(This report complements Appendix A, Section IX of report covering period from 22 Sept to 8 Oct 45)

Navy personnel received the following vaccines as indicated:

Typhoid, paratyphoid A, paratyphoid B - mixed
Cholera
Smallpox
Diphtheria - anatoxin given to Schick positive young men
BCG - to all tuberculin negative men
Tetanus - not routine - used antitoxin
Typhus - mouse lung preparation - not routine
Meningitis - used as a control measure
Dysentery - oral vaccine of little value, if any

The diseases regarded as most troublesome in the Navy were Meningitis and dysentery. No satisfactory control method for meningitis was followed; sulfaguanidine was of some use in the treatment of dysentery.

Capt. Kawai denied any important research developments in the Navy Medical College during the war.

Attached are memoranda issued by the Japanese Navy Department for the control of contagious disease during the war. Of interest are the use of oral vaccine for dysentery (admittedly ineffective) and the spread of epidemic typhus among naval personnel.

Under separate cover copies of the following are being forwarded:

- a. Instructions given to Japanese Navy Medical Officers for the control of contagious disease.
- b. Copies of research publications from the Navy Medical College for the years 1940-1945(sic)

NAVAL MEDICAL COLLEGE - TOKYO
Department of Pharmacy
Dr. Ryozo Hayashi, Lt. Comdr., Acting Chief

This report compliments Appendix A, Section IX of report on period from 22 Sept to 8 Oct 45.)

Investigation of interest are:

The preparation of a sodium hypochlorite solution by electrolysis. Reprint attached.

Study of 2-Methoxy-6-chlor-9 (4-diethylamine-cyclohexyl-amino-acridin) as a substitute for atabrine in the treatment of Malaria. Reprint attached.

The preparation of drinking water from sea water by utilization of electric charge of synthetic resin "Orgacid."

At 1st Supply Depot (Naval Arsenal) work was accomplished in the use of pituitary gland extract from fish and cattle. Claims have been made that when this hormone is injected, it improves night vision. Reprint attached and sample of drug under separate cover.

Outline of training program in Pharmacy attached.

XI INSTITUTE OF PUBLIC HEALTH, Tokyo

Outline of Institute

"Myopic Problem"

Chemotherapeutic Institute, Ichikawa, Chiba

INSTITUTE OF PUBLIC HEALTH - TOKYO
Outline of Institute

Attached is a general outline of this Institute giving its history, physical installation, organization, staff, duties and responsibilities.

INSTITUTE OF PUBLIC HEALTH
Director K. Nobechi
"Myopic Problem"

Dr. Ishikawa, Tomoyoshi (Physiologist)

Member of Institute of Public Health within which is a
"Committee for the study of the Myopic Problem" headed by Dr.
Ishikawa. The committee was formed in 1939 to study 5 problems:

- I. Relation between myopia and constitution.
- II. Influence of poor lighting on development of myopia.
- III. Influence of general hygiene on myopia.
- IV. Hereditary factors in myopia.
- V. Nutritional factors in development of myopia.

Kondo, Tadao (died 1944) ophthalmologist did a great deal of work on the eyesight problem. Much of his work was published and is in the attached journals and papers.

Ishikawa (above studied the effect of the various type characters and has shown that square type is less fatiguing than the cursive type.

Attached are new Journals and Papers which deal with the problem.

INSTITUTE OF PUBLIC HEALTH

Chemotherapeutic Institute, Ichikawa, Chiba

Director: Dr. Shuji Hassegawa

Secretary: Dr. Iwao Nishimura

Chief Attached Hospital: Dr. Sheichi Arifuku

Outline of Activities of Institute is attached.

The curative and preventive properties of Cepharanthin are outlined in the attached summary. It is claimed that this drug is effective in the treatment of leprosy, whooping cough, as well as Tuberculosis. Recent work has indicated its value in the treatment of allergic conditions, particularly Asthma. A summary of this more present work is also attached. Under separate cover is a book on the experiments carried out at the Institute, as well as samples of the drug.

XII. NAGAO INSTITUTE

XIII. CHIBA GOVERNMENT MEDICAL COLLEGE

NAGAO INSTITUTE - TOKYO

Dr. Kominami, Director; Dr. Yabata, Chemist;
Dr. Hatsuta, Ass't. Chemist; Dr. Kawamura,
Botanist. Mr. Okabe, Manager.

This is a commercially supported laboratory for maintaining fungus and yeast cultures for use in industrial fermentation processes. It appears to be modern.

Abstracts of methods and research since 1940 is attached.

Reference is made to Report Penicillin Research Committee attached to periodic report of 22 Sept 45 to 8 Oct 45 Appendix A section III.

Attachments:

Reports on NAGAO Institute.

The View of NAGAO Institute.

The stock cultures at NAGAO Institute.

The sorbose fermentation (II) by T. NEHIRA, at the NAGAO Institute.

The sorbose fermentation (I) by T. NEHIRA, at the NAGAO Institute.

The extraction of Flavin (Vitamin B2) from *Eleocharis* Ashbyi. R. OKABE, Y. HATSUTA, and 2. Veda, at the NAGAO Institute.

GOVERNMENT MEDICAL COLLEGE - CHIBA

Dean Koike

Staff associated with university:

SEO, T., Prof. Surgery

MINATO, A., Prof. Pharmacological Chemistry

AISO, K., Prof. Hygiene

TANIKAWA, K., Prof. Hygiene

SATO, K., Prof. Dermatology and Syphology

ITO, Y., Prof. Ophthalmology

AKAMATSO, S., Prof. Biochemistry

TAKURA, T., Prof. Pediatrics

HAZATO, H., Prof. Bacteriology

KAGAYA, Y., Prof. Forensic Medicine

Research projects include:

Intra-arterial shock injection treatment by SEO, et al -- Sodium iodide, glucose, sulfonamide, sodium salicylate were injected in a variety of clinical diseases resulting in good reports. However, specific results are questionable.

Vitamin A extraction from subcutaneous fat of seals by MINATO yielding 180 International units per gram of fat. The liver contained only one third as much in contrast with whole liver.

Preservation of meat and fish with a culture of B. Butyrcus for one and one half years; however the accompanying odors from the preserving agent has defeated the method for practical use.

Research on penicillin has been carried out by TANIKAWA in connection with the Penicillin Research Committee.

Reliable syphilis rates were secured from SATO which were higher than those in U.S. There has been no sensitivity to Atabrin encountered.

Research on Enzymes has been done by AKAMATSO.

Attachments:

Results on 70 cases of intra-arterial shock injection treatment (Reprint in Japanese and English Summary)
Penicillin Study.

3
XIV NIIGATA GOVERNMENT MEDICAL COLLEGE

Cepharanthin

Pathology and(Parasitology)Dept.

Pathology Dept.

Dept. of Biochemistry

Clinical Division

NIIGATA MEDICAL SCHOOL

Cepharanthin

Dr. Takashi Hashimoto (Dermatologist) - Dean of School

Extensive work was accomplished on the use of "Cepharanthin" in skin T.B., particularly Lupus vulgaris, with prolonged remission or apparent cures. No definite results determined in its use in chest T.B. "Cepharanthin" is an alkaloid of Wisteria Root grown in Formosa. It is manufactured by Kaken Seiyaku Mfg. Co., Tokyo, under the supervision of Prof. Hasegawa of Institute for Infectious diseases, Tokyo.

Reprint attached. Samples under separate cover.

GOVERNMENT MEDICAL COLLEGE - NIIGATA
Pathology Department
Dr. T. Ito, Head of Dept.

Dr. Ito serves in the capacity of pathologist and parasitologist. No parasitological research work has been conducted by him in the past few years.

Clonorchiasis: A large Clonorchis area exists in Niigata prefecture but only a few clinical cases are now being seen. People are familiar with the infected fish and do not eat them.

Paragonimiasis: There are 4 rather restricted areas in Niigata prefecture, namely (1) Imar-mura (Higashi Kubiki district) (2) Ookambara-mura (Nakakambra district), (3) Nanatani-mura (Nakakambara district), (4) near Toka-machi (Nakauonuma district). Wet tissues of Paragonimus infected brain are being sent in under separate cover.

GOVERNMENT MEDICAL COLLEGE - NIIGATA

Pathology Dept.

Prof. T. Ito, pathologist

Prof. K. Akazaki, pathologist

The department has been particularly interested in brain tumors and reticulum cell Sarcoma. Dr. Ito studied under Dr. Stevenson at New York Hospital until 1941.

Approximately 100 autopsies and 300-400 surgical specimens are examined each year. Of this material about one half is received from the Medical School Hospital and the remainder from outside sources. Approximately 1/4 of the cases examined at autopsy were tuberculosis and 1/4 psychiatric, during 1944, Tsutsagamachi fever is indemic in this area.

Publications were suspended in 1943 but prior papers and selected interesting autopsies were requested and will be submitted under separate cover.

NIIGATA MEDICAL COLLEGE
Department of Biochemistry
Prof. N. Ariyama, Head of Department

No research work was done during war, but before the war the department had 10 to 12 assistants.

Prof. Ariyama spent two years at Washington University, St. Louis, studying with Dr. Shaffer and has been at his present post for 15 years.

Prof. Ariyama claims to have isolated a blood forming substance from bone marrow. The work was done before the war, has not yet been published, since the starting material, marrow, was not available in Japan in sufficient quantity during the war. From over 100 kg. of fresh marrow, about a gram of material was isolated. Experimental anemia, caused by bleeding in animals, is cured by a single injection of 0.1 mg. per kilo. He believes it stimulates the bone marrow.

The bone marrow is extracted by water or dilute alkali, and precipitated many times by alcohol and acetone, and color removed by bone black. The material, a white powder, is nitrogen free, produces reducing sugar on hydrolysis, part of which is fermentable, is dialyzable thru a semipermeable membrane and is thought to be a carbohydrate. It is non-toxic. Prof. Ariyama desires to repeat the isolation of the material and test its action on humans before publishing, as insufficient pure material is available at present to complete the determination of the chemical structure.

Attached is a summary of this work, prepared by Dr. Ariyama as a preliminary report for publication.

Ten reprints from the department, published since 1940, are attached.

Attachments:

- (1) Biochemical studies on d-Ribose, with special reference to the Mechanism of Absorption of Sugars from Intestinal Tract.
- (2) Studies on N-Glycosides. Part II
- (3) Studies on N-Glycosides. Part I
- (4) Studies on Metabolism of α -Ketonic Acids.
- (5) Studies on the Pasteur Reaction in Muscle.
- (6) Über Einen Inhibitor der Glyoxalase.
- (7) The Reactions of Sugars with Amino Acids under Mild Conditions.
- (8) Studies on Hydrolysis of Desoxyribo-Nucleotides and Nucleosides.
- (9) Precipitation of Nucleotides and Nucleosides with Salts of Heavy Metals.
- (10) Studies on Tumour Glycolysis.

NIIGATA MEDICAL SCHOOL
Clinical Division

Dept. of Internal Medicine

Prof. I. Shibata

Investigate and published a report including the typing of pneumonia in Japan. (Reprint attached)

Studied the daily Vitamin B requirements on Japanese prisoners of war. Findings agree with American workers. Summary attached.

Prof. Tasaka

Conducted extensive studies on body temperature including influence of environmental temperature on cardiac and respiratory activity, on skin temperature of extremities and reaction of the body to fever in various diseases.

Attached are summaries of unpublished work, on vitamin and temperature studies and the effect of acute hemorrhage on velocity of blood flow.

Dept. of Surgery - Prof. M. Nakata

Dept. of Radiology - Prof. S. Nosakio

No research work has been done in these departments.

XV. TOHOKU IMPERIAL UNIVERSITY MEDICAL COLLEGE, Sendai

Dept. of Pathology

Parasitology Dept.

Bacteriology

S. Ota

Institute of Tuberculosis and Leprosy

Institute of Tuberculosis and Leprosy
(Investigation relating to Diabetes)

Clinical Division

Medico-Chemical Institute

Pharmacology

TOHUKU IMPERIAL UNIVERSITY MEDICAL COLLEGE - SENDAI

Dept. of Pathology

Dr. S. Nasu, Associate Prof. of Pathology

Dr. T. Hoshida, Prof. of Pathology (absent in Tokyo)

Dr. S. Matsuoka, Neuro-pathologist

Dr. S. Yatsuyanagi, Assistant

Dr. Hoshida has been active in experimental research related to chemical Carcinogens.

Special tissues including example of beri-beri heart was selected and will be forwarded under separate cover with department research project reports.

TOHOKU IMPERIAL UNIVERSITY - SENDAI, JAPAN
Medical College
Pathology Department
Dr. S. Nasu, pathologist

Dr. S. Yatsuyanagi gives the lectures in parasitology at this school but was sick at the time. Dr. S. Nasu, a pathologist was interviewed. No parasitological research was being done at this school - only lectures to students.

Paragonimiasis: Three cases of paragonimiasis in this institution in 3 years.

Malaria: No malaria but 5 species of Anopheles in Miyagi prefecture.

Clonorchiasis: Twenty years ago there was an area a little north of Sendai in which there were numerous cases of clonorchis infection. Infections were obtained from a small variety of carp, know as Funa. People discontinued eating of this fish so that there are now practically no cases. Wet tissues on clonorchis cases are being sent in under separate cover.

TOHOKU IMPERIAL UNIVERSITY - SENDAI
Masahiko Kuroya, Prof. of Bacteriology

Working on the fractionation of E. typhi, by chemical means. Has isolated a polysaccharide toxic fraction. Antigenicity undetermined beyond precipitin tests. Possible purpose of work, in nature of other fractionating work done, to use fractions for immunogenic purposes. Working on fractionation of T.B. (This latter completely covered in U.S.)

Reprints of previous work are cataloged by title and will be forwarded under separate cover.

Working on isolation of Penicillium notatum and preparation of penicillin.

Teaches Bacteriology in the University.

Prof. S. Osato

Dr. Osato has only recently joined the staff of the Sendai School. Before this, he was working in the Kanazawa Medical College and all of his published research work will be obtained in the journals of this college when they are collected.

At present Dr. Osato is interested in the following:

1. Experimentally produced insomnia

Animals which are kept awake to the point of exhaustion and death, can be kept alive several days longer than usual by the administration of Vitamin B₁.

2. The Effect of Hot Springs on the animal body

When experimental animals are exposed to natural hot springs, the reticulo-endothelial system of the subcutaneous tissues can be shown to have an increased phagocytic activity.

3. Treatment of Tuberculosis

Dr. Osato observed more than 100 tuberculous patients showing all types of pulmonary involvement who were treated with cepharenthin. In his opinion, the treatment was either of no benefit or was injurious.

He is now observing the effect of rhodinic acid on tuberculosis. This ten carbon chain acid comes from the bark of a tree commonly known as "Taiwan Shinoki" in Formosa. According to Dr. S. Katsura in Formosa the acid was effective in healing 20% of patients with open Tuberculosis. Dr. Osato states that the preparation has some value in the treatment of tuberculosis. The drug is irritant to the gastric mucosa and is dispensed in cod liver oil or some aromatic oil to offset this effect. It is given in a dose of 2-3 cc by mouth, every day for six months or more.

A specimen of the commercially prepared drug was secured and is being forwarded under separate cover.

I have the honor to acknowledge the receipt of your letter of the 15th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

I am, Sir, very respectfully,
Your obedient servant,

Wm. B. Ewald
Professor of Philosophy
The University of Chicago

Enclosed for you are two copies of a paper on the subject of the "Philosophy of Language" which I have just published. I hope you will find it of some interest.

Very truly,
Wm. B. Ewald

I have the honor to acknowledge the receipt of your letter of the 15th inst. and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

I am, Sir, very respectfully,
Your obedient servant,

TOHOKU IMPERIAL UNIVERSITY, Sendai
Institute of Tuberculosis and Leprosy
Director: Dr. Taizo Kumagai (Also Pres. of Univ.)

The Institute of Tuberculosis and Leprosy is housed in a new building donated by a private industry and completed in 1943. Although small, the Institute is modern in appearance and equipment. The staff, under Dr. Kumagai, is chiefly concerned with tuberculosis but leprosy is studied by Dr. Saburo Sato, whose work is mentioned below.

Dr. Kumagai discussed several salient features of the tuberculosis problem in Japan:

1. The peak death rate in Japan proper lies between the ages of 15 - 25. Formosans, however, have a tuberculosis mortality curve of the same character as that of Americans. Dr. Kumagai points out that Japanese eat less fat than any other people in the world. He offers the opinion that the tuberculosis death rate in Japan is a reflection of the dietary habits of the people and he stresses the need for a high fat diet in treatment.
2. Twenty five years ago the tuberculosis death rate among rich Japanese was two and one-half times that among the poverty stricken masses. At present this situation is completely reversed and is related to industrialization of the nation.
3. Cepharanthin administered to both tuberculous animals and humans was of no value in the treatment of the disease in the experience of the staff of the Institute.

Dr. Saburo Sato presented two findings of interest:

1. Koha A, referred to in a previous report under Okuba Experimental Station as a therapeutic agent for leprosy, was without value in the experience of Dr. Sato, who gave one milligram intranenously twice a week for six months to 60 lepers.
2. Dr. Sato had previously reported localized infections in chickens inoculated with leprosy bacilli. During the war Dr. Sato demonstrated that by repeatedly inoculating excised and emulsified leprotic nodules from humans into the breast muscles of a chicken, a generalized formation of nodules containing acid fast bacilli resulted in six months.

Reprints from the Institute are being forwarded under separate cover.

TOHOKU IMPERIAL UNIVERSITY
Institute of Tuberculosis and Leprosy
Director: Dr. Taizo Kumagai

(Investigation relating to Diabetes.)

In addition to the work on tuberculosis and leprosy which he directed and which is described in another report, Dr. Kumagai is also interested in diabetes. He claims to have demonstrated the insulin effect of pancreas before the work of Banting. He has since been interested in finding other substances which will lower the blood sugar level in diabetics.

This year Dr. Kumagai presented to the Tohoku Medical Association his finding on a chemical which he extracted with ether from the leaves of a plant specified as Sathyrus palustris L. var macranthus 9 white) Fernald. When this chemical is given by mouth to animals it lowers the blood sugar. Dr. Kumagai also gave it to 25 diabetics. In mild cases the blood sugar was lowered. In severe cases no effect was noted. A report was requested to be forwarded.

TOHOKU IMPERIAL UNIVERSITY, MEDICAL SCHOOL
Clinical Division
Y. Koga, Prof. of Radiology

Dr. Koga is well known in Japan for having developed the Japanese use of photoradiography in mass chest surveys. Most of his work in this field was done before the war, particularly in 1938.

During the war, his research activities were cut down considerably by a great reduction in the size of his staff.

His department has been working however, on research into:

1. Tissue culture methods
2. The effect of irradiation on tissue culture
3. Effect of irradiation on inflammatory lesions and on tumor cultures.

General Surgery

Prof. M. Muto, General Surgeon

Prof. A. Kature, Neurosurgery

Clinical research has been done during the war. Dr. Muto has, together with his staff, worked on the surgery of Tuberculosis of the lung and on gastro-intestinal operations for malignancy.

Prof. Kature and his staff have been working on the surgical aspects of epilepsy. They have done many pre and post operative electro-encephalograms.

Prof. I. Miki, orthopedist, has been conducting clinical investigations of chronic shoulder disorders.

Reprints of all their papers since 1940 are being forwarded under separate cover.

However, none of the work seems important.

Medical Dept.

Dr. Toyojiro Kato, Prof. Emeritus of Medicine, 63, one of the leaders in Japanese medicine, retired in 1942 to direct the Institute of Aviation Medicine at Tohoku. Was founder of aviation medicine in Japan and has worked on the problems of aviation medicine for many years.

The work of the Institute was done in cooperation with the military authorities and financed by the government. They have been working on the usual problems, using animals (dogs & rabbits) They have a large pressure chamber and a centrifugal apparatus and numerous laboratories for the study of blood chemistry.

II

Their work has been published, with the exception of the most recent investigation in the Japanese Journal of Aviation Medicine, copies of which were obtained. (This info passed to ATIG)

Dr. F. Kurokawa, Prof. of Internal Medicine, specializes in gastro-enterology, is one of the best workers in this field in Japan and has published a text book (1936) on X-ray diagnosis in gastro-enterology. Is now working on a study of the treatment of liver toxicities using levulose and Vitamin K. Has developed a micro method for liver glycogen determination.

Reprints of all his published work were obtained including a review of Japanese gastro-enterology, published in 1943, which will be forwarded under separate cover.

TOHOKKU IMPERIAL UNIVERSITY - SENDAI
Medico-Chemical Institute
Prof. H. Masamune, Director

Extensive studies of biological activity and structure of carbohydrates and the glycoproteins.

More recent work on the isolation of a toxic glycidamine from human cancer tissue, which is also believed a product of normal tissue. Structure not yet completely determined. Summary attached.

Blood group substances have been isolated which are believed to be of carbohydrate nature related to chondridin. Attempts at the synthesis of blood group substances have been made. Summary attached.

Attached are reprints of recent work as well as a summary of his carbohydrate chemistry given in 1943 before the Japanese Chemical Society.

TOHOKU IMPERIAL UNIVERSITY, Sendai
Medical Institute
Motoo Terasaka, Prof. of Pharmacology

Came to Sendai, March 1945, was previously Professor of Pharmacology at Nagasaki University of Medicine, where his research work was done.

Research work on Pharmacology of Uterine Action, Effect of digitalis on the heart, Pharmacology of Ephedrine, and Chemotherapy of (bird) Malaria, and a study of the action of diphtheria toxin.

Attached are 15 reprints of work published since 1941.
(Suggest titles be translated and listed).

XVI HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE, Sapporo

Bacteriology

Pharmacological Laboratory

Nakamura, Bacteriology and Immunology

Hygienic Laboratory

Clinical Division

Hot Springs Research Institute

Pathology Dept.

Biochemistry

HOKKAIDO IMPERIAL UNIVERSITY, SAPPORO, JAPAN
Medical College

Prof. of Bacteriology, Yutaka Nakamura

Complement Fixation Reactions in Malaria

Tested 30 patients with induced P. vivax malaria. All cases were either positive or doubtful. Antigen prepared from human cells infected with P. vivax. Method of preparation being summarized and sent under separate cover.

HOKKAIDO IMPERIAL UNIVERSITY - Sapporo, Japan
Medical College
Pharmacological Laboratory
Prof. Takeo Masaki, Head of Department

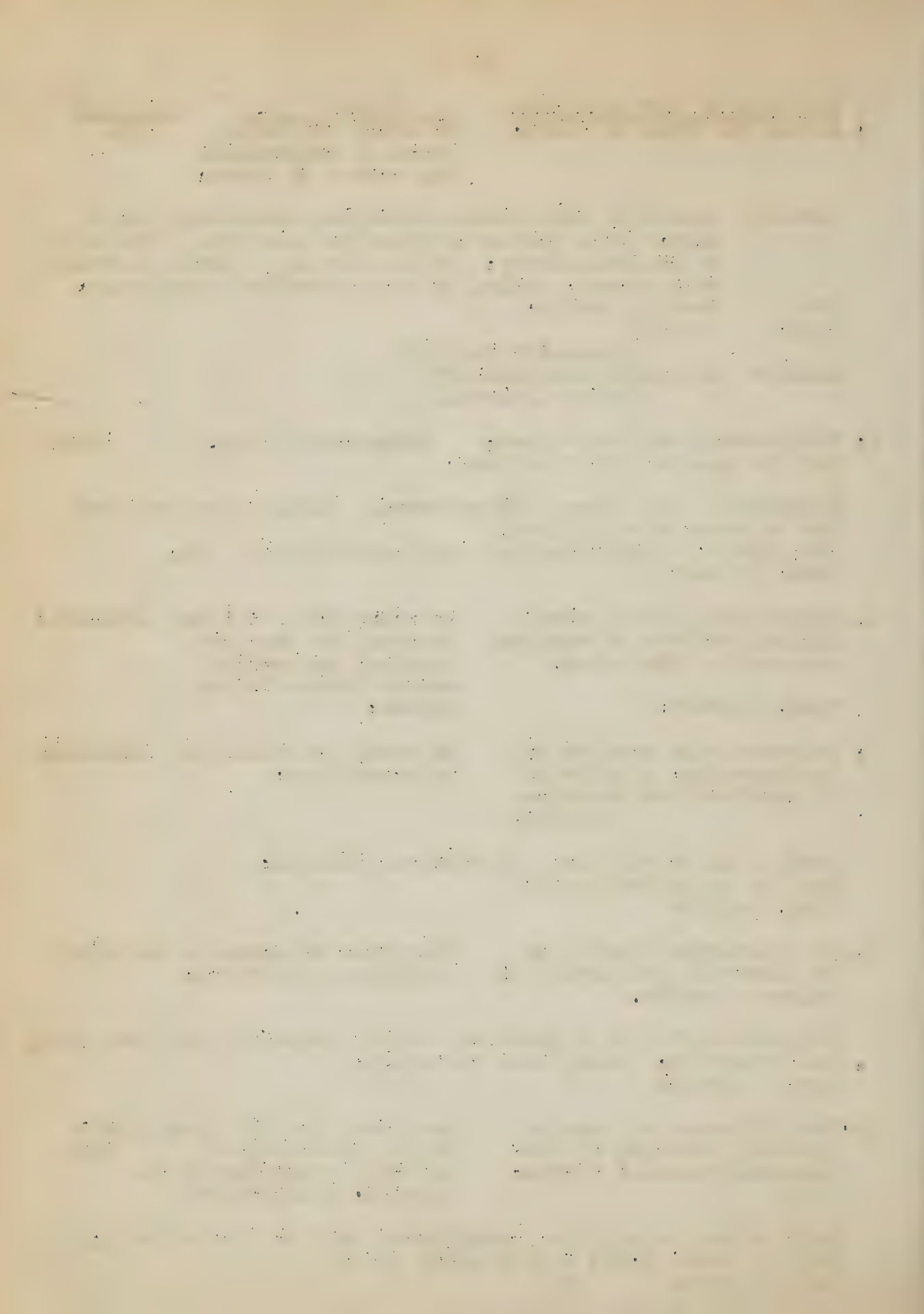
The following studies were conducted under his direction:

<u>Subjects of Investigation</u>	<u>Object</u>	<u>Duration</u>
1. Pharmacologic studies on Dihydrochavibetol	To apply to medicinal purposes.	1943
<p>A substance similar to Guaiacol and found less toxic than creosote. Prepared from Cinnamomum Camphora. Use: Abdominal disinfectant such as dyspepsia. Externally as skin disinfectant. No clinical study made, laboratory studies only on rabbits and mice, and frog. Action: Similar to guaiacol and less toxic. Incl: Reprints and sample.</p>		
2. Skin irritant action of the principles of peppermint oil	Rational use of peppermint oil as skin irritant.	1943
<p>Incl: Reprint of studies.</p>		
3. Skin irritant action of the volatile oils and their principles.	To study the relation between the physico-chemical properties and the skin irritant effects.	1943-1945
<p>Result: The active principle of volatile oils causes the irritation. The more volatile an oil the more irritating. Physical properties include the melting points, solubility and volatility. Volatility is essential for the skin irritation action.</p>		
4. The anthelmintic action of the principles of the peppermint oil, especially of menthol.	Valuation of peppermint oil as anthelmintic.	1938-1943

Studies made on dogs, and cats found to be very effective. Found more effective than santonin. Large doses may be given and less toxic than santonin in large doses. Found 100% effective on Ascaris.

II

<u>Subjects of Investigation</u>	<u>Object</u>	<u>Duration</u>
5. Action of drugs on louse.	To study the mechanism of louse-killing action of drugs.	1944
<p>Result: Essential Oils found effective, mixed with Boris Alba. This powder is found in Hokkaido. Talc may be used similarly. Boris Alba as a powder is found very porous, adding to its absorption properties.</p> <p>Use: Dusting powder.</p> <p>Insl: Reprint</p> <p style="margin-left: 150px;">(Essential Oil-25%</p> <p>Sample: Lausan(Naphthalene-25%</p> <p style="margin-left: 150px;">(Boris Alba-50%)</p>		
6. Benzene-Naphthalene method, for the extermination of lice.	Exterminate lice.	1944
<p>Naphthalene in benzene 25% solution. Clothing sprayed and put in chest for 12 hours.</p> <p>Use: Spray. Most effective and convenient for use.</p> <p>Incl: Reprint</p>		
7. Comparison of the louse-killing effects of various evaporable substances.	To study the relation between the physico-chemical properties and the louse killing effect.	1944-1945
Incl: Reprint.		
8. Pharmacologic studies on Lucidusculin, a principle of Aconitum Lusidusculum (Nakai)	To study its clinical applicability.	1940-1941
<p>Study made on rabbits. No clinical studies.</p> <p>Use: As an anti-diuretic</p> <p>Insl: Reprint</p>		
9. Pharmacologic studies on the diuretic principles of Stigmata Maydis.	Valuation of stigmata maydis as a diuretic.	1942-1943
<p>Stigmata Maydis is a powdered extract prepared from corn silk.</p> <p>Use: Diuretic. Being used in Europe.</p> <p>Incl: Reprint</p>		
10. The influence of quinine upon the function of reticulo-endothelial system.	Research into the cause of the preventative effects of quinine on infection. (Respiratory)	1940-1942
<p>Small doses stimulates, large doses acts as a depressant.</p> <p>Average dose: 0.003 - 0.103 mg/Kg per OS</p> <p>Incl: Reprint</p>		



III

<u>Subjects of Investigation</u>	<u>Object</u>	<u>Duration</u>
11. On the influence of the room temp. upon the quantity of urine in a whole day.	To judge exactly the diuretic action of drugs on the rabbit. (Particularly Stigmata Maydis)	1942

High temp: Little diuresis

Low temp: Increase in diuresis.

Constant temp: necessary when studying action of diuretic drugs.

Incl: Reprint

Enclosures: Reprints

1. Pharmakologische Studien Über Dihydrochavibotol.
2. Über die hautreizende Wirkung des Pfefferminzols.
3. Vergleichende Untersuchungen über die pharmakologischen Eigenschaften einiger Anthelminthika und der zur Terpenreihe gehörigen Substanzen; sowie Wurmbabtreibungsversuche mittels Menthol an Hunden.
4. Action of various drugs on the louse.
5. Ueber eine neue "Benzol-Naphthalin" Methode zur Bekämpfung der Kleiderlaus.
6. Comparison of the louse-killing effects of the various evaporable substances.
7. Pharmacologic studies on Lucidusculin, a principle of aconitum lusidusculum (Nakai)
8. Pharmacologic studies on the diuretic principles of stigmata Maydis.
9. The influence of quinine upon the function of reticulo-endothelial system.
10. Study on the effect of room temperature upon the urine output in a day.
11. Manual on Drugs of Northern Japan (2).

THE
OFFICE OF THE
SECRETARY OF THE
NAVY
WASHINGTON, D. C.
JANUARY 10, 1900

TO THE
HONORABLE
MEMBERS OF THE
HOUSE OF REPRESENTATIVES
AND
THE SENATE

SIR:

I have the honor to acknowledge the receipt of your letter of the 7th inst., in relation to the proposed amendment to the Naval Appropriation Bill, and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

I am, Sir, very respectfully,
Your obedient servant,
J. D. LONG

HOKKAIDO IMPERIAL UNIVERSITY, SAPPORO

Dr. Yutaka Nakamura, Prof. of Bacteriology and Immunology

Has visited the United States twice, most recently in 1922, at which time he visited in Boston and New Orleans, following studies on Yellow Fever, under Rockefeller sponsorship, in a Japanese Colony in South America.

Primary interest is in Immunology and especially in Tissue Immunity (has the book of Kahn, "Tissue Immunity", but has not read same.)

Recent research on viruses diseases (vaccinia) and rickettsial diseases. Claims that by cataphoresis an antigenic immunogenic protein fraction can be obtained from vaccinia.

Claims that inoculation of blood of Tsutsygamushi patients testicularly into rabbits isolated virus which may be serially transferred, enhancing virulence. Has applied cataphoretic studies to some members of the Salmonellae group especially gaertner's bacillus and Sal enteritidis.

Is working on penicillin isolation of strains. A weak, impure product has been produced, experimentally.

Research in general hampered by a lack of animals.

Reports on work published in the journal of the university are to be forwarded separately.

HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE - Sapporo
Hygienic Laboratory
Dr. Zenjuro Inouye, Prof. of Hygiene

Dr. Inouye has been primarily interested in the physiological effects of air ions and has devoted much of the past ten years to studying various phases of this problem. He has also been interested in the factors influencing the efficiency of the production of immunity by BCG Vaccine in guinea pigs. Some of his observations include the following:

A. That the efficiency of BCG in protecting guinea pigs against human tubercle bacilli subsequently inoculated, is reduced in the presence of:

1. Low temperature
2. High temperature
3. Low atmospheric pressure
4. Malnutrition
5. Low calcium intake
6. Vitamin B1 deficiency
7. Vitamin C deficiency
8. Fatigue
9. Acidosis

B. That the efficiency of BCG is maintained or increased by:

1. Administration of Vitamin B1.
2. Exposure to an increased concentration of air ions for short periods daily.

C. That exposing factory workers to an increased concentration of air ions for short periods daily increased their efficiency and enhanced their recovery from fatigue.

A list of titles of research publications from the Hygienic Laboratory during the past five years is attached. A complete set of reprints has been furnished by Dr. Inouye and is being forwarded under separate cover.

THE HISTORY OF THE
CITY OF BOSTON
FROM 1630 TO 1880

The city of Boston, situated on a neck of land between the harbor and the bay, was first settled in 1630 by a group of Puritan settlers. The city grew rapidly, and by 1680 it was one of the largest and most important cities in the colonies. The city was the center of the Massachusetts Bay Colony, and it was the seat of the colonial government. The city was also the center of the intellectual and cultural life of the colonies. The city was the birthplace of many of the great men of the American Revolution, and it was the scene of many of the important events of the Revolution.

The city of Boston was the center of the Massachusetts Bay Colony, and it was the seat of the colonial government. The city was also the center of the intellectual and cultural life of the colonies. The city was the birthplace of many of the great men of the American Revolution, and it was the scene of many of the important events of the Revolution.

- 1. The city of Boston was the center of the Massachusetts Bay Colony, and it was the seat of the colonial government.
- 2. The city was also the center of the intellectual and cultural life of the colonies.
- 3. The city was the birthplace of many of the great men of the American Revolution, and it was the scene of many of the important events of the Revolution.
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- 8. The city was the center of the intellectual and cultural life of the colonies.
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- 10. The city was the center of the intellectual and cultural life of the colonies.

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HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE
Clinical Division
Surgical Dept., Prof. S. Yanaji

A list of investigations is attached.

Psychiatry Dept. - Prof. T. Ishibashi

Some research work was done during the war on the Aborigine Ainu, who are susceptible to the peculiar hysterias of primitive peoples.

A list of publications is appended.

Pediatrics Dept. - Dr. K. Nagi

A list of publications is appended.

Medicine Dept. - Dr. S. Nakagawa

Experiment on the effect of cold on the bodies of man and animals, both in health and disease, have been conducted for the past 15 years without significant findings.

Serological test and chemical test for malignancy have been investigated for several years.

Also, test on liver function have been done.

A German drug, Benzyimidazolin, developed in 1941, a vogus stimulator, has been tested.

List of publication also attached.

Ophthalmology Dept. - Dr. Sadami Ochi

Principal work has been done on histopathologic studies of trachoma. Staining technique for inclusion bodies has been developed here. Procedure is described in the accompanying reprints

March 2, 1914

Dear Mr. [Name]

I have just received your letter of the 28th.

I am sorry to hear that you are not well, and hope you will soon be able to resume your work.

I am, very respectfully,

Yours truly,

[Signature]

[Address]

I am, very respectfully,

Yours truly,

[Signature]

I am, very respectfully,

Yours truly,

[Signature]

I am, very respectfully,

HOT SPRINGS RESEARCH INSTITUTE
HOKKAIDO IMPERIAL UNIVERSITY
Dr. S. Saeto, Medical Director

Experimental work was done on the effect of mineral waters on wound healing and also on intra-arterial injection of sterilized mineral water on diseases such as arthritis, and on acute and chronic infections. Good results were claimed.

Reprints will be forwarded under separate cover.

HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE - SAPPORO
Pathology Dept.

Dr. I. Kon, Prof. Emeritus
Dr. K. Takeda, Prof. 1st Pathology Department
Dr. H. Arbo, Prof. 2nd Pathology Department
Dr. K. Sano, Assistant
Dr. K. Oota, Assistant

Attached are reports of research projects undertaken by the two departments of pathology at Hokkaido Imperial University.

The high altitude studies will be reported in detail under separate cover.

Tissues and abstracts of research projects and routine autopsies will be forwarded under separate cover.

HOKKAIDO IMPERIAL UNIVERSITY - SAPPORO

Medical Department

Prof. Biochemistry Morio Yasuda, M.D., Ph. D. (Came to Sapporo in 1942)

Investigated metabolic and nutritional studies in connection with the Physical Culture Institute, Tokyo (Now closed).

Investigated the structure of phospholipids, particularly plasmalogen and amino acid cephalin derivatives. Recent reprints attached.

A summary of more recent studies of the structure of phospholipids as well as nutritional and metabolic studies of inhabitants of cold regions as attached.

XVII. HOKKAIDO IMPERIAL UNIVERSITY, Sapporo

Veterinary Faculty

Dept. of Agriculture

Applied Mycology

Cryological Institute

HOKKAIDO IMPERIAL UNIVERSITY - SAPPORO, JAPAN
Veterinary Faculty

Prof. K. Ichikawa - Chief of Veterinary Medicine

Dr. Ichikawa stated that Dr. Ono in Manchuria has developed a method of collecting Babesia parasites from blood. It is a sedimentation technic using calcium citrate (10%) solution. The infected cells rise to the top, are pipetted off and sedimented 2 or 3 more times. Dr. Ichikawa said that it might be utilized in the concentration of malaria parasites.

Dr. R. Kurosawa - Prof. of Obstetrical Veterinary Medicine

Has done considerable work on the diagnosis of pregnancy in the horse. Published papers are being sent in under separate cover.

Dr. S. Hamada - Bacteriologist in Veterinary Medicine

Has done considerable work on Salmonella infectious producing abortion in the Mare. Published papers are being forwarded under separate cover.

He stated that a few years ago there was a considerable amount of abortion in cattle produced by Trichomonas, but upon treating cows with washings of Mercurochrome and Mercuric chloride, or a 0.5% solution of Lysol, this was prevented.

Dr. C. Kohanawa, Hematologist

Dr. Kohanawa has done considerable work on infectious anemia in horses. He has also done hematological work on rabbits, cows and other animals.

Attached is a list of publications. Reprints are being forwarded under separate cover.

HOKKAIDO IMPERIAL UNIVERSITY - SAPPORO

Department of Agriculture

Prof. Agricultural Chemistry, Eigi Takahashi

Ass't Prof. Nulo Ito

Investigations on nutrition of animals. No research was done during the war.

Prof. Biochemistry, Yukihiro Nakamura

Chemical and physical chemical studies of starches. Work published prior to 1940.

Department of Science

Prof. Organic Chemistry, Harusada Sugimoto

Isolated "Kobusin", a new alkaloid from aconite. A summary of more recent study of the structure of aconite alkaloids is attached

HOKKAIDO IMPERIAL UNIVERSITY - SAPPORO, JAPAN

Faculty of Agriculture:

Dr. Jun Hanzawa - Prof. Applied Mycology (Retired)

Dr. Y. Sasaki - Prof. Applied Mycology

Dr. Hanzawa, retired Prof. of Applied Mycology, after 39 years on the faculty, has worked mainly in the application of microorganisms to agriculture, industrial fermentations, and the preparation of fermented foods. (1) A fermented soybean food "Natto" widely used in Japan, is the result of his research. (2) The application of the flax retting principle (pectinase breakdown by microorganisms) to mulberry bark (waste from silk industry) to cotton plant stalk and to Manchurian Phibiscus in the preparation of a strong durable fiber for gunny sack (burlap) production, is an outgrowth of his research. (3) During the war, glucose has been derived from potato starch for use in the work in the laboratory. (4) As in most other laboratories work on the isolation of *Penicillium notatum* and the preparation of Penicillin has been and is in progress. Attempted isolation of other molds with antibiotic capacities is underway.

The laboratory at the University is old and unkempt. As in most institutions reagents are lacking and the knowledge of research being done in the states is meager. Requests for information on Penicillin production are continually sought.

Dr. Y. Sasaki is now the Prof. of Applied mycology carrying on the work reported above. He is a former student of Dr. Hanzawa. His present interest is in the classification of the mycodermis.

HOKKAIDO IMPERIAL UNIVERSITY
Cryological Institute
Prof. N. N. Kamura, Medical Director

Low temperature chambers capable of producing -25°C and -40°C temperature are in use.

Considerable emphasis was placed upon the studies begun in 1943 to alleviate frostbite. No practical applications were developed.

Rapid freezing of meat and vegetables is being studied at present.

Detailed abstracts and related reports will be submitted under separate cover.

A list of research projects undertaken during the past 2 years is attached.

MINISTRY OF HEALTH AND SOCIAL AFFAIRS - TOKYO
Bureau of Hygiene and Sanitation

The following officials of the Bureau of Hygiene and Sanitation were interviewed:

Dr. Masayoshi Yanaguchi.....	Division for Prevention
Dr. Taizo Ashida	of Chronic Diseases
Dr. Yushichi Minamizaki.....	Chief of the Division for
	Prevention of Communicable
	Diseases
Dr. Yukiharu Miki.....	Chief of the Division of
	Health

The Bureau of Hygiene and Sanitation according to these officials is an administrative organization whose relationship to research is one of cooperation and application. Thus, for research, the Division for Prevention of Chronic Diseases depends largely on the Tuberculosis Research Institute under Dr. H. Oka (reported separately); the Division for Prevention of Communicable Diseases depends on the Government Institute for Infectious Diseases (reported separately) and the Division of Health is chiefly concerned with problems of nutrition which are investigated by the National Nutrition Institute. A list of projects which were under investigation in this Institute have been reviewed by the committee chairman, who has indicated no further action is necessary.

KIX NATIONAL RESEARCH COUNCIL OF JAPAN

Projects

Reports on Projects

NATIONAL RESEARCH COUNCIL OF JAPAN

Dr. Harue Hayashi - Director

The Medical Section was supervised by Dr. Y. Miyagawa

Funds are granted by the Bureau of Education to the National Research Council which receives and passes upon applications for financial support from investigators. Average yearly grants amount to 18 million yen of which 10 million was devoted to war work. Approximately 4 million yen went to medical and related research.

Completed reports up to 1943 are published in journals of the council with the exception of those investigations carried out for the Army and Navy. Results of work for the Army and Navy were not made known to the council.

A list of projects relating to medicine is attached.

Investigation of these projects is under way.

<u>SUBJECTS</u>	<u>RESEARCH AIM</u>	<u>NAME OF CHIEF RESEARCHER</u>
Flight medicine ¥ 260,000	Study of high altitude flying and diving for purpose of trying to increase ability to withstand these and to prevent dangers.	Kato, Toyojiro and 70 others. Tohoku Imp U
Underwater medicine ¥100,000	Study to improve living conditions in submarine and to increase operating efficiency.	Hisano, Nei and 15 others Nagoya Imp U
Ability to stand heat and acclimatization. ¥110,000	Study to promote working efficiency and to direct way of living by examining individual differences in ability to stand heat and suitability for life in tropics.	Hisano, Nei and 17 others
Acclimatization to low temperature. ¥120,000	Study on method of protection against cold, precautions against frostbit and further to find a method of increasing ability to stand cold.	Toda, Masazo and 8 others. Kyoto Imp U
Nutrition in the tropics and in cold regions. ¥45,000	Study on selection of food stuff suitable for climate and on method of increasing production and of storage.	Toda, Masazo and 15 others Kyoto Imp U
Physical power ¥30,000	Study on maintenance and promotion of physical power of people and on individual's suitability to various manual work.	Uramoto, Masazaburo and 30 others Giehukai Med Sch
Sight strengthening. ¥54,000	Prevention of nearsightedness and strengthening of sight in daylight and night.	Shioji Yoshiji and 15 others Tokyo Imp U
The health of infants ¥50,000	Study on nutrition of infants in wartime, prevention of sickness, motherly care, method of keeping health of working women.	Kuriyama, Shigenobu and 24 others. Tokyo Imp U
Blood transfusion substitute. ¥180,000	Study of blood transfusion substitute medicine, method of storing of blood, method of blood transfusion.	Nakazumi, Masatoku and 12 others Tokyo Imp U

<u>SUBJECTS</u>	<u>RESEARCH AIM</u>	<u>NAME OF CHIEF RESEARCHER</u>
Physical constitutions ¥20,000	To study ability & change in ability to resist various diseases from standpoint of constitution & type of body.	Koiko, Kyiji & 23 others Chiba Med Col
Hot Springs ¥38,000	To study effect of natural hot spring & to apply this in recovery from fatigue.	Misowa, Keigi & 11 others Tokyo Imp U
Hormone Vitamins ¥60,000	Study of mechanism of action and method of use of (vitamin hormone).	Shimizu, Tayei & 17 others Okayama Med Col
Infectious cerebrospinal meningitis ¥50,000	Various chemotherapeutic methods parallel use of inoculation serum, measures against carriers, & improvement of vaccine.	Miyakawa, Yonoji and 5 others Tokyo Imp U
Digitalis ¥27,000	Submitted on report from 22 Sept thru 8 Oct 45	Kobayashi and Ichidate Tokyo Imp U
Prevention of malaria and treatment ¥60,000	Prevention of malaria, malarial mosquitoes, sanitary installations, treatment test of efficacy of new medicines.	Hayashi, Haruo
Preparation of anti-malarials ¥60,000	Synthesis of new anti-Malarial compounds.	Asahina, Haruhiko
Prevention of dengue fever and treatment ¥50,000	Culture of dengue parasite, animal inoculation method of diagnosis, experiment with human being.	Keizumi, Tan
Leprosy ¥50,000	Animal inoculation, culture of bacteria, now chemotherapy.	Ota, Masao
Breeding of small animals for experiments. ¥25,000	Finding best method for quickly increasing number of small animals for experiments.	Okada Kaname & 9 others Tokyo Imp U
Regulating mechanism in living body & its military application ¥40,000	Aim to create new type of equipment	Aida, Tokusuke and 8 others Tokyo Imp U

<p>1. The first of these is the effect of the drug on the central nervous system. It is found that the drug has a marked effect on the central nervous system, and this is the basis of its action.</p>	<p>2. The second of these is the effect of the drug on the peripheral nervous system. It is found that the drug has a marked effect on the peripheral nervous system, and this is the basis of its action.</p>	<p>3. The third of these is the effect of the drug on the autonomic nervous system. It is found that the drug has a marked effect on the autonomic nervous system, and this is the basis of its action.</p>
<p>4. The fourth of these is the effect of the drug on the endocrine system. It is found that the drug has a marked effect on the endocrine system, and this is the basis of its action.</p>	<p>5. The fifth of these is the effect of the drug on the immune system. It is found that the drug has a marked effect on the immune system, and this is the basis of its action.</p>	<p>6. The sixth of these is the effect of the drug on the reproductive system. It is found that the drug has a marked effect on the reproductive system, and this is the basis of its action.</p>
<p>7. The seventh of these is the effect of the drug on the circulatory system. It is found that the drug has a marked effect on the circulatory system, and this is the basis of its action.</p>	<p>8. The eighth of these is the effect of the drug on the respiratory system. It is found that the drug has a marked effect on the respiratory system, and this is the basis of its action.</p>	<p>9. The ninth of these is the effect of the drug on the digestive system. It is found that the drug has a marked effect on the digestive system, and this is the basis of its action.</p>
<p>10. The tenth of these is the effect of the drug on the excretory system. It is found that the drug has a marked effect on the excretory system, and this is the basis of its action.</p>	<p>11. The eleventh of these is the effect of the drug on the integumentary system. It is found that the drug has a marked effect on the integumentary system, and this is the basis of its action.</p>	<p>12. The twelfth of these is the effect of the drug on the musculoskeletal system. It is found that the drug has a marked effect on the musculoskeletal system, and this is the basis of its action.</p>
<p>13. The thirteenth of these is the effect of the drug on the sensory system. It is found that the drug has a marked effect on the sensory system, and this is the basis of its action.</p>	<p>14. The fourteenth of these is the effect of the drug on the motor system. It is found that the drug has a marked effect on the motor system, and this is the basis of its action.</p>	<p>15. The fifteenth of these is the effect of the drug on the reproductive system. It is found that the drug has a marked effect on the reproductive system, and this is the basis of its action.</p>
<p>16. The sixteenth of these is the effect of the drug on the endocrine system. It is found that the drug has a marked effect on the endocrine system, and this is the basis of its action.</p>	<p>17. The seventeenth of these is the effect of the drug on the immune system. It is found that the drug has a marked effect on the immune system, and this is the basis of its action.</p>	<p>18. The eighteenth of these is the effect of the drug on the reproductive system. It is found that the drug has a marked effect on the reproductive system, and this is the basis of its action.</p>
<p>19. The nineteenth of these is the effect of the drug on the circulatory system. It is found that the drug has a marked effect on the circulatory system, and this is the basis of its action.</p>	<p>20. The twentieth of these is the effect of the drug on the respiratory system. It is found that the drug has a marked effect on the respiratory system, and this is the basis of its action.</p>	<p>21. The twenty-first of these is the effect of the drug on the digestive system. It is found that the drug has a marked effect on the digestive system, and this is the basis of its action.</p>
<p>22. The twenty-second of these is the effect of the drug on the excretory system. It is found that the drug has a marked effect on the excretory system, and this is the basis of its action.</p>	<p>23. The twenty-third of these is the effect of the drug on the integumentary system. It is found that the drug has a marked effect on the integumentary system, and this is the basis of its action.</p>	<p>24. The twenty-fourth of these is the effect of the drug on the musculoskeletal system. It is found that the drug has a marked effect on the musculoskeletal system, and this is the basis of its action.</p>
<p>25. The twenty-fifth of these is the effect of the drug on the sensory system. It is found that the drug has a marked effect on the sensory system, and this is the basis of its action.</p>	<p>26. The twenty-sixth of these is the effect of the drug on the motor system. It is found that the drug has a marked effect on the motor system, and this is the basis of its action.</p>	<p>27. The twenty-seventh of these is the effect of the drug on the reproductive system. It is found that the drug has a marked effect on the reproductive system, and this is the basis of its action.</p>
<p>28. The twenty-eighth of these is the effect of the drug on the endocrine system. It is found that the drug has a marked effect on the endocrine system, and this is the basis of its action.</p>	<p>29. The twenty-ninth of these is the effect of the drug on the immune system. It is found that the drug has a marked effect on the immune system, and this is the basis of its action.</p>	<p>30. The thirtieth of these is the effect of the drug on the reproductive system. It is found that the drug has a marked effect on the reproductive system, and this is the basis of its action.</p>

<u>SUBJECTS</u>	<u>RESEARCH AIM</u>	<u>NAME OF CHIEF RESEARCHER</u>
Emission Ray ¥120,000	Study on method of indirect X-ray photography, on its application to group examination for tuberculosis & on effects of various emission rays on living matters.	Nakazumi, Masatoku and 12 other Tokyo Imp U
Tuberculosis ¥140,000	Study on inoculation against tuberculosis, improvement in method of treatment, and on problem of work for tuberculosis patients.	Imamura, Arao & 63 others. Osaka Imp U
Filterable viruses ¥20,000	Study of influenza, small pox, trachoma	Takeuchi, Matsujiro and 21 other Osaka Imp U
Immunity ¥50,000	Study on inoculations against various infectious diseases, mass production of inoculation serums, methods of storage & use.	Tamiya, Takeo & 28 others. Tokyo Imp U
Fatigue ¥94,000	Study of nature, diagnostic method, prevention of & recovery from fatigue.	Katsunuma, Seizo and 36 others Nagoya Imp U
Nutrition efficiency ¥78,000	Study on nutritional value of wartime food in Japan, Korea, Manchuria, & determination of minimum amount required for different professions	Toda, Masazo & 13 others. Kyoto Imp U
Eruptive typhus ¥96,000	Study on inoculation against diagnosis extermination of eruptive typhus & also on problems concerning mass living sanitation.	Miyakawa, Yoneji and 20 others Tokyo Imp U
Brain Waves ¥38,000	Study on picturization of brain wave & its application	Katsunuma, Seizo and 11 others Tokyo Imp U
Enzymes ¥40,000	Chemical research on various enzymes & quantity production of those which can be used to increase physical power & heat standing ability.	Kobu, Yashiro and 16 others Osaka Imp U
Physical Standards for Japanese ¥40,000	Determination of physical standards by measuring young and old male Japanese.	Nishi, Naruko & 24 others Tokyo Imp U

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SUBJECTSRESEARCH AIMNAME OF CHIEF
RESEARCHER

Insects, ¥35,000

To make clear the cycle of diseases such as malaria and eruptive typhus which are carried by insects & to study prevention of these diseases.

Bokuzawa, Sanji
and 13 others
Tohoku Imp U

Military horses
& animals
¥80,000

Study on increasing production of military horses & other animals for military use & on their sanitation so that source of military horses in wartime can be maintained.

Emoto, Osamu
and 14 others
Tokyo Imp U

Domestic animals
& domestic fowls
¥44,000

To plan to increase number or best domestic animals & fowls by applying principles of heredity in present situation of insufficient feed.

Masui, Kiyoshi
and 11 others
Tokyo Imp U

Parasites of
domestic animals

To exterminate harmful parasites of domestic animals, to promote efficiency of military horses & general domestic animals.

Yoshimura,
Ichiro & 5
others.
Vet College

Wartime food for
health. ¥89,000

Treating of food stuff; rationalization of combination & cooking; preparing food from things not used as food but which are edible, making inedible substances edible; grains powdered food; country food stuffs; search & use of natural vitamin sources; effects of vitamin & others in a limited food supply.

Yabuta, Teijiro
& 28 others
Tokyo Imp U

Electronic microscope. ¥30,000

To study to improve electronic microscope itself & to give basic assistance in solving various problems which require early solution.

Seto, Shozo
& 8 others
Tokyo Imp U

It is not possible to say
whether the results of the
present study are in
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NATIONAL RESEARCH COUNCIL OF JAPAN
Reports on Projects

The following NRC projects have been turned over to other sections, as indicated, for investigation; since the subject indicated that the project would be of primary interest to that section.

1. Wartime Water Works and Sewage - To Office of Chief Engineer - Major Block.
2. Flight Medicine - TO ATIG, FEAF - Capt. Castor
3. Underwater Medicine - TO NAVTECHJAP - Comdr. Ayres

The following projects have been reviewed by the committee and it is considered that no further action is required. Many have been reported upon under the institute where the work was done.

1. Studies on the regulatory function in the animal body.
2. Factors influencing the growth and fermentation of microbes.
3. Nutrition Projects.
4. X-Ray indirect radiography.
5. Electro-encephalograms.
6. Balneotherapy
7. Studies on Vitamins.
8. Substitution Method for Blood Transfusion.
9. Studies on Epidemic Cerebrosfinol Meningitis.
10. Studies on Epidemic Typhus.
11. The metabolism and the action of Vitamins under hot temperature.
12. Section for the preparation of Anti-Malarial Remedies.
13. Chemotherapy of Tuberculosis.
14. Malnutrition.
15. Electron-Microscope
16. Studies on Architectural Hygiene and Equipment.
17. X-rays.

1. The following are the results of the work done by the committee during the year 1942:

2. The committee has been very busy in the past few months and has been able to complete the following work:

3. The committee has been very busy in the past few months and has been able to complete the following work:

The following are the results of the work done by the committee during the year 1942:

and it is hoped that no further action is required. Many have been reported from the Institute where the work was done.

The following are the results of the work done by the committee during the year 1942:

and it is hoped that no further action is required. Many have been reported from the Institute where the work was done.

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and it is hoped that no further action is required. Many have been reported from the Institute where the work was done.

18. Projects relating to Physical Strength.

Attached are reports from the Japanese on the above subject.

XXI KANAZAWA GOVERNMENT MEDICAL COLLEGE

- 1 Biochemistry Department
- 2 Internal Medicine
- 3 Dr. T. Tani, Director of Bacteriological Institute
- 4 Department of Pharmacy
- 5 Dept. of Pharmacology
- 6 Pharmacology (Dr. H. Okamoto)
- 7 X Ray



GOVERNMENT MEDICAL COLLEGE, Kanazawa
Biochemistry Department
Prof. Ken Iwasaki

Investigated and developed gasometric methods for chemical analysis. Has particularly studied and developed methods for determination of urea, uric acid, creatinine, guanidine, etc. in blood. Has developed a gas measuring apparatus in which 10 micrograms of Nitrogen can be determined, forwarded under separate cover. He also studied methods for the determination of Iodine.

The laboratory was very well equipped and organized and the reviewer believes the quality of work to be good.

Attached are a list and reprints of the work of the department.

GOVERNMENT MEDICAL COLLEGE, Kanazawa
Dr. M. Suzuki, Prof. of Internal Medicine

Considerable work has been done by Dr. Suzuki on chemotherapy in tuberculosis. A study is now in progress on the treatment of tuberculosis with oaminophenal. Of sixty patients treated, 10% showed a disappearance of the organism from sputa, urine, or gastric washings, and on x-ray examination, healing of the lesions

This is a preliminary report.

No ill effects were reported in any of the patients up to this time.

Reprints of the work on tuberculosis will be forwarded under separate cover.

Reference is made to report on the Pharmacology department of this college.

GOVERNMENT MEDICAL COLLEGE, Kanazawa

Dr. T. Tani, Director of Bacteriological Institute

The main interest of the institute has been in spirochaetal studies. Efforts are being directed principally in an effort to culture T. pallidum in-vitro and to prepare a vaccine.

Seventy-four reprints of the work in this Institute have been obtained. A translated listing of this work from 1940-1945 is attached. These articles are published in the faculty organ.

GOVERNMENT MEDICAL COLLEGE, Kanazawa

Department of Pharmacy

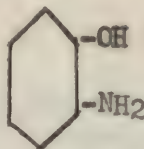
Prof. Yosio Sakurai

Investigated certain alkaloids and found one (Nupharidin)
useful as a local anesthetic.

Attached are 2 reprints and a list of publications with
titles which were published in the Tokyo Journal of Japanese
Pharmaceutical Society (reprints were not available).

GOVERNMENT MEDICAL COLLEGE, Kanazawa
Dr. H. Okamoto, Prof. of Pharmacology

A product o-aminophenol
vitro and in-vivo (animal
in tuberculosis. The attached
self explanatory

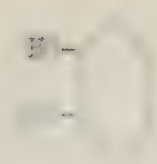


is being used after in-
tests) - in human therapy
digest of this work is

Samples of o-aminophenol and another product. 3-aminophen-
oxazon - (2) have been procured. Also an ampule of the o-amino-
phenol in solution, as used in therapy, will be forwarded under
separate cover.

Reprints on the work on o-aminophenol and on Prof. Okamoto's
work on streptolysin will be forwarded under separate cover.

and which have been in
use for many years, and
which are now being
replaced by more modern
types.



The following table gives the
results of the analysis of
the compound, and shows that
it is a pure substance.

The compound is a white, crystalline solid, and is soluble in
water, alcohol, and ether. It is stable to heat, and does not
decolorize on exposure to light. It is a pure substance, and
its composition is given in the following table.

Element	Found	Calculated
C	68.5%	68.5%
H	4.5%	4.5%
Br	27.0%	27.0%

The compound is a pure substance, and its composition is given in the following table.

GOVERNMENT MEDICAL COLLEGE, Kanazawa

Dept. of Pharmacology

Director: Dr. N. Ishizaka

Investigated and synthesized new compounds for chemotherapy of pneumonia. Developed a compound (Decasulphone) which is claimed to be more effective against streptococcus pneumonia. Reprints attached, samples (2) under separate cover.

Tested numerous alkaloids and new synthetic compounds for treatment of bird malaria. Dirnethozy-8-diethylaminocethylaminoquinoline was found the most satisfactory (sample under separate cover). A list of compounds and summary of tests conducted are attached.

A list of papers from the department, with titles and reprints are attached.

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Tested various alkaloids and new ...
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A list of papers from the department, with ...
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XXI KYOTO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Leprosy Institute

Microbiology (Dr. R. Kimura)

Pharmaceutical Department

Department of Pharmacology

Research Projects

Tropical Diseases

Utizino-Laboratorium for Chemical Research

Dr. Kimura is the pioneer in electronic microscopy in Japan, using an instrument which he constructed. His photographs of micro-organisms are the equal of any done in the U.S.A.(Mudd). His most pertinent observations in this field are on the intracellular granular material of the paratyphoids - other gram negatives and on C. diphtheriae. The exact nature and importance of the bodies brought to light by the electronic microscope has not yet been observed elsewhere and is in corroboration with American and German work.

The other studies by Dr. Kimura include the following:

Fowl pest - The development of a formolized vaccine (virus) giving good immunity.

Experimental inoculation of dogs with bovine and human T.B.- Dog is resistant to former but susceptible to the latter. The dog, as a possible carrier, is indicated.

Differentiation of human and bovine T.B. - by chick embryo inoculation. Embryo more susceptible to the bovine strains.

Dengue fever - Cultivation of virus on chick embryo and in mouse brain. A mouse brain vaccine showing good protection in animals prepared.

Endemic typhus - Attempted animal infection intranasally, in open wounds, and on the conjunctive. Resultant infection by any of these routes successfully done.

Two unpublished manuscripts on endemic typhus were picked up by Lt. Col. Sanders, CWS. Further data on this work could not be obtained.

Bangs disease (Undulant fever) - Serum of dairy workers (Kyoto showed 2 of 116 men with agglutinin titer 1-100. Of 29 cows tested, eleven gave positive reactions (reactors).

Analysis of toxin by peptic and other enzyme digestion. A study on the nature of toxin. (Chemical)

The incidence of M. tetragenous in upper respiratory infections. Found to be a common secondary invader.

Immunological Properties of Cultured Leishmania donovani

Four rabbits were inoculated with killed (by heat) leptomanas forms of L. donovani. In the serum of these rabbits were found agglutinating substances, precipitins, complement-fixing antibodies and anaphylactic antibodies. All of these various reactions were said to be strain specific - could tell the difference between 2 strains of L. donovani.

Skin Reactions for the Diagnosis of Kala-Azar.

Antigen prepared from cultivated leptomonas forms. Injected 0.1 cc intradermally. Tested 16 Japanese soldiers infected with L. donovani and obtained positive results in all. The height of the reaction was from 12 to 24 hours. Some positive reactions were as much as 55 MM in diameter. Four controls were negative. About 30 cases of leishmaniasis in Japanese soldiers in Kyoto Hospital and many more in Himeji Hospital, near Kobe. All soldiers were from North China.

Chemotherapy of Kala-Azar with Five Antimony Preparations.

He found that all five drugs would cure striped squirrels infected with L. donovani. In vitro and toxicity studies were conducted. These drugs were also injected into a normal animal and then an emulsion of livers infected with L. donovani was inoculated intraperitoneally. All drugs prevented the squirrels from acquiring leishmaniasis. All controls contracted the disease.

Injection of L. Donovanii into Rabbit Testicles.

Dr. Kimura injected leishmania and leptomas forms into the testicles of rabbits. In some animals the leishmania could be found in the liver, spleen and bone marrow but could always be found in the testicle.

Reprints of the above publications are attached.

KYOTO IMPERIAL UNIVERSITY
Pharmaceutical Department
Toriso Takahashi

Synthesized numerous sulfur-pyridine containing compounds,
list of compounds, as well as reprints are attached.

KYOTO IMPERIAL UNIVERSITY
Department of Pharmacology
Prof. Kikuo Ogin
Ass't. Prof. H. Yamazaki
Takeka Seki, Assistant

Investigated many compounds (list attached) for treatment of bird malaria. All were found less effective than atabrine with the exception of 2 methyl-mercapto 6 chlor - 9 - (diethylamino pentylamino) pyridino 3'2' : 2:3 quinoline chlor hydrate which was better than atabrine. Method of preparation attached, sample under separate cover.

Investigate an antimony compound (antimonyl hexonate) prepared by Prof. Nakai at the National Chemical Institute, Tskatsuki.

It was found very effective in treatment of 10 human cases of Kala-azar (reprints attached) and has also been recently found of decided value in 30 human cases of Schistosomiasis. The compound is relatively non toxic, given in a course of 25-50 intravenous injections of 0.5 - 0.6 gm. Lethal dose for 10 gm. mouse is 40 mg.

Investigated certain antipyretics and one was synthesized with properties similar to morphine.

3 reprints attached. Attached is a list of 63 publications with attached reprints.

KYOTO IMPERIAL UNIVERSITY, MEDICAL COLLEGE
Research Projects

Attached is the report of the research projects in medicine that have been pursued by the members of the staff since 1940.

Reprints of the articles which appeared to be of most interest are being forwarded under separate cover. Specific reports on most pertinent projects are submitted under separate title.

KYOTO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Tropical Diseases

Dr. S. Yamaguti, Prof. in Dept. of Science

Dr. Yamaguti was a Captain in the Japanese Navy. From August 1943 to December 1944, he was doing research work in the Macassar Navy Institute for Tropical Diseases in Macassar, Celebes.

Malaria

Most of his work was done on experimental bird malaria. He worked on the theory that a lowered oxygen tension, in the circulating blood, might help destroy the malaria parasites. Ten birds infected with a species of malaria (probably Plasmodium praecox) were first injected with quinine, then put in a glass dessicator and the air evacuated. They were kept at this negative pressure for 30 minutes. The treatment of birds in this manner was found more effective than by the simple administration of quinine.

During the past 5 years, he has published many papers on the parasites of fish and other animals.

Reprints are being sent under separate cover.

KYOTO IMPERIAL UNIVERSITY

Utzino-Laboratorium for Chemical Research

Director: Prof. S. Utzino

Prof. Utzino, until 1942, was Director of Medical Chemical Institute, Imperial University, Sendai, and came to Kyoto in 1942.

Extensive investigations were carried out on digestive proteolytic enzymes. Enzymes from the kidney and liver of whales were recently studied.

Attached are 44 reprints covering work done at Sendai and Kyoto since 1940.

XXII. KYUSHU IMPERIAL UNIVERSITY

Bacteriology Dept.

Hygiene Dept.

Orthopedic Surgery

Pharmacology

Pathology Dept.

Public Health Dept.

Clinical Division

KYUSHU IMPERIAL UNIVERSITY

Faculty of Medicine

Bacteriology Department

Dr. Taduo Toda, Prof. of Bacteriology and Protozoology.

Doctor Toda and his assistants have carried on an extensive research program during the war. Reprints of publications of the Department are being forwarded under separate cover. Among the problems studied are included the following:

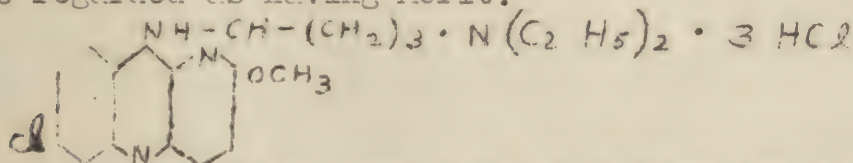
1. BCG immunization - Doctor Toda claims to be the first to have used BCG immunization in Japan. He is the author of a monograph on the vaccine. He is in complete agreement with all other investigators in claiming marked reduction of tuberculosis morbidity and mortality among immunized individuals. His laboratory is the production center of BCG for use in Kyushu.

2. Leprosy - all attempts at cultivation of or animal infection with human leprosy bacilli failed.

3. Dengue - while the primary objective of Doctor Toda's studies on dengue was to determine size of the virus, the interesting point is that he claims to have grown the virus on the chorio-allantoic membrane of the developing chick embryo.

A specimen of this virus in dried human blood, preserved in the frozen state since 1943, was infective to humans in 1945. A sample of the dried blood has been secured for forwarding under separate cover.

4. Chemotherapy of malaria - experimental antimalarial compounds were received from Prof. Takahashi of the Kyoto Imperial University for study. Among the group of compounds studied, one was regarded as having merit:



7 chlor 6' methoxy - 4 - (a diethylamino 8 - penty - amino) - (pyridino - 3' - 2' = 2 . 3 chinolin) chlorhydrat.

5. Penicillin - an experimental product was obtained which was therapeutically effective but produced reactions. No commercial production of penicillin was undertaken.

No investigations of influenza, typhus or encephalitis were undertaken during the war.

KYUSHU IMPERIAL UNIVERSITY

Faculty of Medicine

Hygiene Department

Dr. Kiomi Atsubo, Prof. of Hygiene (and Parasitology)

Doctor Atsubo has interested himself in climatology but also has sponsored some research on the identification and distribution of helminths.

Reprints of publications of the Department of Hygiene are being forwarded under separate cover.

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KYUSHU IMPERIAL UNIVERSITY

Faculty of Medicine

S. Jirinaka, Dean of the Medical School and Prof. of
Orthopedic Surgery

"Prosthetic Limb Studies"

1. This department was asked early in the war to make researches into the problem of limb prosthesis and much work has been done along this line. The whole problem has been reviewed and the mechanics of various types of artificial limbs have been improved. Several new upper limb attachments have been devised to assist the crippled farmer in his occupations.

Three papers are appended.

2. Many studies have been conducted on the handling of traumatic amputations and joint injuries. Studies on the case of histamin and choline injected locally to prevent anklyosis and also on the use of fascia lata to prevent joint enkylosis have been made.

3. Much work has been done on the prevention of infection in traumatic joints and in compound fractures. He has developed no new techniques on adjustive procedure.

4. The professor has just started a study on the effect of the atomic bomb on bone growth in children. The bone tissue from autopsies is being studied.

KYUSHU IMPERIAL UNIVERSITY

Faculty of Medicine

Dr. Tokushi Fukuda, Prof. of Pharmacology

Research was conducted in three phases:

1st Phase: Digitalis and digitalis-like substances. Extensive studies were made on *Nerium Odorum*, habitat: South Asia, a powdered extract was prepared and experiments conducted in frogs and rabbits. Action is the same as digitalis and found less toxic.

Reprint attached.

2nd Phase: Pharmacology and Physiology of heart and blood vessels. Study of no significance.

Reprint attached.

3rd Phase: Toxicological study of Globe fish (Japanese). A toxic substance known as "Tetradotoxin" was found in liver and ovary of fish and sometimes in the skin. Muscle of fish not poisonous.

Reprint attached.

KYUSHU IMPERIAL UNIVERSITY

Faculty of Medicine

Pathology Department

Dr. Fumiki Inai, Ass't. Prof. of Pathology

(Substitute for Dr. Hosaku Ono, Prof. of Pathology and

Dr. Yukizo Ohno, Emeritus Prof. of Pathology)

Dr. Inai, who will succeed Dr. Yukizo Ohno as Professor of Pathology, discussed the work of the Department as follows:

1. Doctor Ono has spent many years studying the lymphatic system. His studies have been concerned chiefly with anatomy and physiology, the blood supply of the spleen, the etiology of splenomegaly and the pathogenesis of tuberculous lymphadenitis.

2. Doctor Ono has studied the problem of jaundice for 20 years. He is responsible for the unitarian theory of icterus which implies that jaundice does not occur in the absence of liver pathology.

3. The autopsies performed on atomic bomb patients (24 total) are being reported to Colonel Oughterson, of the Atom Bomb Commission.

Reprints have been requested for forwarding under separate cover.

KYUSHU IMPERIAL UNIVERSITY

Faculty of Medicine

Public Health Department

Dr. Haruo Mizusima, Prof. of Public Health

Doctor Mizusima, who holds a Degree of Doctor of Public Health from Johns Hopkins University, has devoted most of his research to population problems in Japan, Korea, Manchuria, and Mongolia. He has reported on population increases in cities and rural areas, and has developed life tables for Japanese, Koreans, and Manchurians. In addition Doctor Mizusima has sponsored research in industrial hygiene, Vitamin C content of foods, purification of water by the oligodynamic action of silver, construction of houses for maximum comfort, effects of ultraviolet irradiation, effect of high temperature on the development of tuberculosis, effect of low pressure on the development of tuberculosis, bacteria which utilize carbon monoxide and the influence of fluorine in water on mottling of teeth in Koreans.

Reprints of publications are being forwarded under separate cover.



III. Dr. T. Mitsuya, Prof. of Urology

A large part of the work of this department, together with the apparatus used, was lost in the bombing and burning of the urological laboratory.

They have made a study of the normal physiology of the urinary tract using x-ray cinematographic methods. Peristaltic movements of the kidney, pelvis, ureters and bladder were studied.

Reprints were requested for forwarding under separate cover.

IV. Dr. F. Ishiyama, Prof. of Surgery

The professor has the reputation of being one of the best surgeons in Japan. He is carrying on the work of his deceased predecessor, Prof. H. Miyaki, on gall stones. He has collected stones from Japanese living in China, Formosa, Korea and other parts of the world in a attempt to explain the high incidence of bilirubin stones in Japanese.

The professor has studied the composition of gall stones, using microscopic, clinical, spectrographic and x-ray disfraction methods. He feels that the figures given in text books and in the literature for the incidence of various types of gall stones will have to be revised in the light of his researches. He feels that all the various analytical methods must be employed to determine the true make up of the calculus.

He is now applying his methods to the analysis of urinary stones.

His paper on X-ray crystallography is appended.

2. His department has used the Fuch's, Kurten and Sakai methods of diagnosis in early gastric carcinomas. In their hands the tests are about 82% accurate and are falsely positive in about 15%.

3. Ishiyama has done over 500 gastric resections for cancer and does not hesitate to take the hepatic artery if he feels it is necessary. He has done this in about 10 cases and has been successful in all. They have shown by animal experimentation, that the liver blood supply is readily taken over by the gastro-hepatico-duodenal artery.

4. He has done 40 frontal lobectomies in epileptics with discouraging results. He has resected the bronchial ganglia in 60 cases of asthma with modicore results.

His paper on post operative pulmonary complications is appended.

1. The first of the three main points of the report is that the Commission has found that the Government of the United States has not taken adequate steps to protect the rights of the people of the United States to the free and open markets of the world.

2. The second of the three main points of the report is that the Commission has found that the Government of the United States has not taken adequate steps to protect the rights of the people of the United States to the free and open markets of the world.

IV. The Commission's Findings on the Rights of the People of the United States to the Free and Open Markets of the World

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V. Dr. Sigeru Umayahara, Prof. of Obstetrics and Gynecology

The Department of Obstetrics and Gynecology has investigated such problems as blood supply of the embryo, liver function in toxemia of pregnancy, action of various hormones, roentgen pelvimetry, physical measurements of the newborn, insufflation tests for tubal potency, Vitamin C excretion and sodium taurocholate as a treatment for sepsis.

Reprints of publications are being forwarded under separate cover.

VI. Dr. G. Kusunaki, Prof. of Internal Medicine

The department of medicine of this university has an excellent reputation in Japan and is active in experimental and clinical research.

1. Studies have been conducted on the autonomic nervous system using the picrotoxic and section method.

By this method a small area in the ventral part of the pons has been shown to be the center for tonic control of the intestine and the spinal cord and peripheral paths have been worked out. Reprints are attached.

2. Studies have been and are now being conducted on the effect of gastric and duodenal substance and human saliva and serum on polycythemia and pernicious anemia in the white rat. These studies have not been completed and have not been published.

3. They have shown that the use of gastric and duodenal substance in conjunction with typhoid vaccine causes a marked increase in the production of immune bodies and a higher titer is obtained than results from the use of the vaccine alone.

A reprint of their paper on this reaction is appended.

4. The staff has conducted much experimental and clinical research on the problem of bronchial asthma. Many reprints on this problem are attached.

They have used fever therapy and insulin shock therapy with claimed excellent results.

VII. Dr. M. Sasaki, Prof. of E-N-T.

The professor has published numerous papers on his method of tonsilectomy, on the clinical problem of tonsillitis, and on the removal of foreign bodies in the bronchial tree.

Reprints are appended.

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VIII. T. Takeda, Prof. of Roentgenology

The only study conducted in this department recently has been one on the use of X-Ray therapy in the treatment of leprosy. Good results have been claimed for the maculous form of the disease. The results in the nodular form of the disease are not good.

Reprints will be forwarded under separate cover.

XXIII NAGOYA IMPERIAL UNIVERSITY, Faculty of Medicine

Anatomy Department

Department of Bacteriology

Clinical Division

Comments on Medical Education

Hygiene Department

Ophthalmology

Pathology and Parasitology

Dept. of Pediatrics

Pharmacology (Miwa)

NAGOYA IMPERIAL UNIVERSITY

Faculty of Medicine

Anatomy Department

C. Togari, Prof. of Histology and Embryology

The department has made many investigations in the histology and histogenesis of various organs in rodents.

Similar studies have been conducted on the sweat glands of the human axilla and on the nasal mucous membrane of man.

Reprints will be submitted under separate cover.

Dr. K. Yamado, Prof. of Anatomy (Micro)

The professor has been interested in the variations and anatomical abnormalities of trunk muscles of man, particularly of the levator scapulae. He has made exhaustive studies.

Reprints will be submitted under separate cover.

Dr. H. Nagamatsu, Prof. of Anatomy (gross)

The professor is conducting, in conjunction with all Japanese anatomists, a comprehensive study of the Japanese body types.

This work has not been published.

NAGOYA IMPERIAL UNIVERSITY

Faculty of Medicine

Department of Bacteriology

Dr. Kazuo Ogasawara, Ass't. Prof. of Bacteriology (substitute for
Dr. Mitsuho Tsurumi, Prof. of Bacteriology).

During the war the Department of Bacteriology concerned itself with studies of the influenza virus. English, American and Japanese strains available for study were all type A. The few sporadic outbreaks of influenza in Japan during the war were identified by neutralization tests with patients sera as also due to type A virus.

Experimentally, four types of influenza vaccine were prepared:

1. Emulsion of infected mouse lung tissue.
2. Tissue culture
3. "Purified" suspensions of virus from mouse lung tissue.
4. Chick embryo preparations.

The first of these caused severe reactions in humans; the second was less drastic in its effect; the third was most acceptable to recipients. None was produced on a large scale and none was properly evaluated because there were no extensive outbreaks of the disease.

In addition to the above, studies were made of the feasibility of using the Manchurian hamster (*Citellus mongolicus*) as an experimental animal for Japanese encephalitis virus. It was found that the virus survived on 3-4 intracranial passages.

According to Dr. Ogasawara, no Japanese encephalitis virus vaccine was produced in Japan for control purposes.

The entire bacteriological laboratory and all equipment, data and cultures were destroyed during the first bombing attack on Nagoya.

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NAGOYA IMPERIAL UNIVERSITY
Faculty of Medicine
Clinical Division

I. Dr. U. Kikkawa, Prof. of Obstetrics and gynecology

This is a busy clinical department and they have been conducting several clinical and experimental studies in the last 5 years:

1. A study of tuberculosis in pregnancy.
2. A clinical investigation of malignant chorioneplitheloma.
3. An extensive study of foetal bone ossification.
4. A study of placenta praevia, particularly its X-ray diagnosis.
5. The use of laparoscopy in AZ tests.
6. A study of so-called foetal respirations by roentgenographic methods.

Reprints will be forwarded under separate cover.

II. Dr. M. Akune, Prof. , Oto-rhino-lar

The experimental investigations of this department have been concerned with the physiological effects of industrial noises and of total body vibrations of high frequency:

1. The effect of noise on the B₁ content of the livers of rabbits.
2. Histological changes in the organ of Corti of white mice subjected to factory (airplane riveting) noises.
3. A study of the effect of industrial noises on factory workers.
4. The effect of high frequency total body vibrations on the utricular sac of animals.

Reprints will be forwarded under separate cover.

III. A. Katsumura, Prof. of Internal Medicine and Director of the Hospital.

The professor is the leading figure at the school and hospital and is interested in hematology.

1. He devised the sterual puncture apparatus used by the Army and Navy.
2. He has made a study of the histology of marrow tissue in lead poisoning.
3. He has devised a method of extracting cattle bones and used the extract in the treatment of emaciation due to starvation.
4. He has written a very interesting statistical paper on the incidence of the various types of brain tumor in Japan,

The results of the investigation are as follows:

1. The effect of noise on the hearing of the human ear.
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showing the relative infrequency of gliomas and the high incidence of parasitic cysts and tuberculosis.

5. Recently he has been working on the problem of fatigue in factory workers and has developed several fatigue tests.

Reprints will be submitted under separate cover.

S. Okada, Prof. of Internal Medicine

The professor has made extracts of various carcinomatous lesions and used them in the treatment of cancer.

He also has an extract from inflamed gall bladders which he used in the treatment of gall bladder disease.

Reprints will be forwarded under separate cover.

Oral Insulin

Dr. Okada has prepared insulin for oral administration as follows:

Eosin 0.01 gm. Acid pigment
Methyl Violet 0.01 gm. Alkaline pigment
Saporin 0.1 gm.
Insulin - as required

Insulin given in this manner requires three times the quantity of insulin as when administered hypodermically.

Acid pigment prevents action of Pepsin
Alkaline pigment prevents action of Trypsin
Insulin prepared this way is absorbed by intestines

Clinical study was made on 50 cases.

IV. Dr. W. Saito, Prof. of Surgery

The professor is one of the best known surgeons in Japan and has been very busy during the war with his practice and running the surgical wards at the hospital.

He has done clinical research in spinal anesthesia and has directed a study of the oesophagus by roentgen kymography and tomography.

Reprints will be submitted under separate cover.

S. Kiriwara, Prof. of Surgery

The professor is head of the 2nd Surgical Service at the university hospital. He has done considerable experimental work in nerve suture and on surgical shock. He has also done considerable gastroscopy and has devised an improvement of the Wolf shindler flexible scope. Reprints forwarded under separate cover.

V. U. Sugita, Prof. of Psychiatry

Has made an extensive study of the character and personalities of war factory workers and find that 20% of them are abnormal. He believes that poor leadership of factory foremen is responsible for most of the variations.

He has also done considerable work with the use of the electroencephalogram in various psychosis.

Attached are reprints on recent work.

Other reprints will be forwarded under separate cover.

VI. S. Ugura, Prof. of Orthopaedic Surgery

The professor is world known for his studies of congenital dislocation of the hip and has seen over 1500 cases in his clinic in the last 20 years.

He has continued his studies during the war.

Reprints will be forwarded under separate cover.

SAIGOYA MEDICAL UNIVERSITY

Faculty of Medicine

Dr. H. Tanura, Prof. Dermatology and Dean of the Medical School.

"Comments on Medical Education"

The Doctor's work has been confined to administration of the medical faculty and school.

The medical college graduated the same number of doctors during the war as before (400 per class) but the curriculum was shortened from 4 to 3 years.

There are (according to Dr. Tanura) 70,000 doctors in Japan and only about 20,000 of them are graduates of the full 4 years or 4½ year courses. He does not feel these men are properly trained and hopes many of them will return for graduate instruction.

Like other Japanese doctors with whom this matter has been discussed, Tanura's main concern is that the profession is over crowded.

NAGOYA IMPERIAL UNIVERSITY

Faculty of Medicine

Hygiene Dept.

Dr. Bogo Koinuma, Professor of Hygiene

During the war Dr. Koinuma studied the problem of industrial dusts. He tested a variety of face masks and decided that a mask consisting of fine layers of "habutai" grade silk was most feasible for production in Japan. This mask, however, did not come into commercial production.

In addition to silicosis occurring in coal and copper miners, foundry workers and sand blasters, Dr. Koinuma also listed dermatitis, carbon monoxide poisoning and pneumoconiosis in people grinding duraluminum as common industrial health problems. In addition, tuberculosis was reportedly common in the last named group.

According to Dr. Koinuma, the protective creams used as preventives against dermatitis were of the cosmetic type and non specific in their effect. In addition, Japanese laborers were reluctant to wear proper respirators as a protection against dusts. Ventilation equipment to remove both dusts and other atmospheric contaminants were limited in use because of a lack of material.

NAGOYA IMPERIAL UNIVERSITY, MEDICAL SCHOOL

Dr. M. Nakashima, Prof. Opthamology

Dr. R. Hagino, Ass't Prof. Opthamology

Work was accomplished on the use of Posterior Lobe of Anterior Pituitary Gland, where a Melanophalen Hormone was extracted and used in night blindness. This hormone was extracted from fish and prepared by Aoyama Institute, Tokyo (Commercial Pharmaceutical house).

Dose: 1 cc, became effective after 2 hours and duration was about 24 hours.

Results: Night vision was improved, especially objects on the horizon.

Fish glands were used only because of the supply.

Note: Supplent to Appendix "A", Section IX,
Navy Medical College, Tokyo - Dept. of
Pharmacy.

NAGOYA IMPERIAL UNIVERSITY

Faculty of Medicine

Pathology and Parasitology

Dr. Fukuzo Oshima, Prof. of Pathology and Parasitology

Doctor Oshima has devoted many years to the study of the distribution, pathology and epidemiology of clonorchis sinensis, metagonimus yokagawai and Dibothriocephalus latum infections. All three parasites are endemic in the prefectures surrounding Nagoya due to the native custom of eating raw or partially cooked fish. Since there are no satisfactory therapeutic measures, the only practical procedure at present is to educate the people to cook fish before eating. A reprint outlining some of this work is attached.

During the war Dr. Oshima also studies the pathology in soldiers who died of malaria. Reprints of this work are attached.

Before the war Dr. Oshima was studying carcinomas but was forced to discontinue the work due to lack of supplies. At present he is interested in the etiology and transmission of chicken sarcoma.

NAGOYA IMPERIAL UNIVERSITY

Faculty of Medicine

Dept. of Pediatrics

Dr. Kyoichi Nakae, Ass't. Prof. of Pediatrics (Substitute for Dr.
Okira Sakamoto, Prof. of Pediatrics)

"EKIRI"

During the war the Department of Pediatrics was largely concerned with the study of "ekiri" (diarrhea in young children). The studies conducted by the staff show that the disease is prevalent in children between the ages of two and seven. Untreated patients have a 44% mortality rate. Death appears to be due to cardiovascular collapse. Experimental observations seemed to show that intravenous saline and glucose combined with the administration of strophanthin was the therapeutic procedure of choice.

The disease apparently is due to a variety of bacterial etiologic agents. A reprint is attached which describes the experimental observations made including etiology and therapy.

MACOMA MEMORIAL UNIVERSITY - MEDICAL SCHOOL
Dr. Hiroto Iino, Prof. Pharmacology

Research carried on over period 1940 to 1945.

1. Action of Adrenalin on the secretion of the stomach.

Conclusion: Adrenalin does not directly increase secretion of the stomach, but stimulates activity of the stomach, which in turn stimulates secretions.

2. Effects of oxygen and air on movement of intestines.

Conclusion: When oxygen content is reduced to 9%, a marked decrease is noted in movement of intestines, from 20% to 9% reduction. No change is noted.

3. Effect of acid on secretion of suprarenal glands.

Conclusion: Injection of 5 cc. 1% HCl. showed an increase in secretion.

4. Action of caffeine as a heart stimulant.

Conclusion: Caffeine stimulates heart by direct stimulation and not by increasing circulation of blood. This was proven by keeping blood pressure and rate of circulation constant. Blood pressure was held constant by withdrawing blood as circulation increased. Circulation of blood was held constant by withdrawing blood as blood pressure increased.

XXIV. OKAYAMA UNIVERSITY, Faculty of Medicine

Anatomy Department

Bacteriology Department

Hygiene Department

Internal Medicine

Pharmacology Department

Pathology

Physiology

Biochemistry

OKAYAMA UNIVERSITY
Faculty of Medicine
Anatomy Department

Dr. Masaji Seki, Prof. of Anatomy and President of the Japanese
Anatomical Society.

Doctor Seki and his staff have concerned themselves primarily with the histological changes due to hot springs therapy. Available reprints detailing these and other studies are being forwarded under separate cover.

All buildings and practically all equipment and publications of the Department of Anatomy were destroyed during an air raid.

OKAYAMA UNIVERSITY

Faculty of Medicine

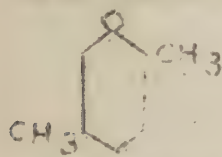
Bacteriology Department

Dr. Sakae Iurikami, Ass't. Prof. of Bacteriology

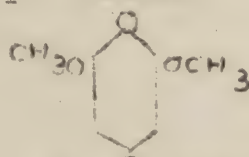
(Substitute for Dr. I. Suzuki, Prof. of Bacteriology)

The Department of Bacteriology, which also teaches parasitology, has investigated four major problems during the war. Available reprints are being forwarded:

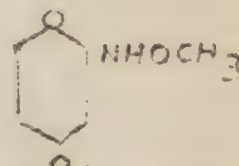
1. Typhus vaccine - attempts were made to produce typhus vaccine from the peritoneal membranes of experimentally infected animals. This project never reached a practical conclusion.
2. Distribution of fluke infestation in fish - extensive surveys of the extent of metagonimus, clonorchis and other fluke infestations of fish have been made, using a digestion technic to liberate the encysted stages for identification.
3. Salmonella types in Japan.
4. Experimental therapy of R. prowazeki infections in guinea pigs - among a series of "chinon" derivatives prepared by the Hoshi Pharmaceutical Company in Okayama, three have shown promise in the treatment of guinea pigs experimentally infected with Rickettsia prowazeki:



Kylochinon



2-6 Dimethoxychinon



2 Acetaminochinon

OHIO STATE UNIVERSITY
Faculty of Medicine
Hygiene Department
Dr. Masuo Ogata, Prof. of Hygiene

Practically all research sponsored by Dr. Ogata has been concerned with fundamental immunological phenomena. A large number of reprints are being forwarded under separate cover.

OHIO STATE UNIVERSITY

Faculty of Medicine

S. Inada, Prof. of Medicine

K. Kitayama, Prof. of Internal Medicine

1. Professor Kitayama has directed a study in the clinical and immunological aspects of influenza. They have been unsuccessful in their attempt to develop a good immunization.

2. The department has done a great deal of work on the problem of encephalitis Japonicum. They have used a mouse brain antigen but production was curtailed due to the war.

3. The professor (Kitayama) claims to have clarified the relationship between the mid brain and the hypophysis cerebri. He has made extensive studies of the blood vessel and nerve fibre anatomy in the region of the tuber cinereum. He claims to have demonstrated a much closer neurovascular relationship between the pituitary gland and the mesencephalon than other workers.

II. Dr. Hideto Yagi, Director of Gynecologic and Obstetric Clinic

Doctor Yagi has sponsored research programs dealing with problems of female sterility, treatment of carcinoma of the cervix and prevention of prenatal and neonatal deaths. Reprints of staff publications are being forwarded under separate cover.

While studying the diagnosis of the causes of sterility, Doctor Yagi developed a modification of the Rubin test for tubal patency. His method consists of instilling sterile saline into one tube at a time, through a specially designed instrument which blocks off the tube not being tested. The volume and rate of flow through each tube are charted and the graphs obtained furnish comparative data on the patency of the tubes. Diagrams of the apparatus and sample charts are given in one of the above mentioned reprints.

Doctor Yagi also maintains an excellent pathology museum for teaching purposes.

III. E. Hanamoto, Prof. of Pediatrics

The professor's staff was greatly curtailed during the war and he has been busy with clinical work.

Recently he has become interested in the study of certain sulphur proteins in milk and serum.

Reprints have been requested and will be forwarded under separate cover.

IV. B. Hata, Prof. of Ophthalmology
H. Kajiura, Ass't. Prof. of Ophthalmology

This department has been conducting investigations into the problem of myopia. They are conducting clinical and animal experiments to show the effect of general diseases on the development of near sightedness.

Reprints will be forwarded under separate cover.

V. M. Hayashi, Prof. of Psychiatry

The department of psychiatry has been conducting a clinical investigation of schizophrenia.

They have shown the CO_2 tension of cerebral blood to be low in aggravated dementic precox and rises on amelioration of the patient's condition.

They have also shown the temperature of the brain to be subnormal in schizophrenics.

Reprints will be forwarded under separate cover.

VI. H. Nagishi, Prof. of Urology and Dermatology

The professor's clinical researches have been on the therapy of syphilis. He has also conducted many animal experiments on bismuth absorption and elimination and on the spinal fluid concentration of the metal. He has been attempting to find a method of improving the spinal fluid absorption.

He has also done some experiments with auto transplanted dog kidneys and on the effect of Vitamin C deficiency on the susceptibility of the rabbit skin to infections.

Reprints will be forwarded under separate cover.

VII. S. Tsuda, Prof. of Surgery

The professor has been working chiefly on various serum and urine tests for cancer. He has confirmed the work of Fuchs and other German and Japanese workers in this field.

He has also revised interest in the use of a colibacillus antiviral in the treatment of peritonitis.

The professor has always been interested in the problem of pancreatitis and he has continued his studies on this condition.

Reprints will be forwarded under separate cover.

OKAYAMA UNIVERSITY

Faculty of Medicine

Dr. Kenichiro Okushima, Prof. of Pharmacology

Research for past five years was conducted in two phases.

First Phase constituted functional and morphological studies of various organs, and the action of drugs, especially on the central nervous system.

Second Phase constituted experimental and chemotherapeutic studies upon various infectious diseases, particularly Typhoid Dysentery, by the Aromatic Guanidin derivatives, especially P.oxybenzyl-guanidin.

Reprints attached.

OSAKA UNIVERSITY
Faculty of Medicine

Dr. Hiroshi Tanabe, Prof. of Pathology

Doctor Tanabe has been interested in the following problems and has furnished available reprints to be forwarded under separate cover:

1. Effects of the atomic bomb explosion in Hiroshima - Dr. Tanabe autopsied 19 patients in Hiroshima and 10 in Okayama. Reports are being sent to the Atomic Bomb Commission.
2. Pathology of Japanese virus encephalitis.
3. Pathological changes in endocrine glands associated with hydrogen sulfide or carbon disulfide poisoning.
4. Physiology and pathology of endocrine glands.
5. Pathology of interstitial pneumonia.
6. Pathology of pulmonary tuberculosis.

Dr. Y. Hamazaki, Ass't. Prof. of Pathology

Dr. Hamazaki has published an extensive series of histopathologic studies dealing with virus inclusion bodies and various intracellular structures demonstrated by special stains.

Reprints are being forwarded under separate cover.

OKAYAMA UNIVERSITY

Faculty of Medicine

Dr. Kanae Hayashi, Prof. of Physiology

Prof. Hayashi concentrated his studies on the effects of various conditions on blood vessel walls, for the protection and cure of arteriosclerosis.

He claims that Vitamin C, upon Epinephrine-Arteriosclerosis protects the blood vessel walls and cures arteriosclerosis.

Reprints attached.

RECEIVED
JAN 10 1900
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WASHINGTON, D. C.

TO THE SECRETARY OF AGRICULTURE
WASHINGTON, D. C.
FROM THE DIRECTOR OF THE BUREAU OF PLANT INDUSTRY
JAN 10 1900
SUBJECT: [illegible]

OKAYAMA UNIVERSITY

Faculty of Medicine

Dr. Shimizu Taei, Prof. of Bio-Chemistry

Dr. Kazuno Taro, Ass't. Prof. of Bio-Chemistry

Study on the physiology and chemistry of bile and, especially the origin and the formation of bile acid with 24 carbon atoms.

The gall-bladder of different kinds of animals (fish, the water lizard, the snapping turtle, birds, otter and buffalo) were studied and separated various kinds of sterols (C26, C27, C28) or sterochalic Acids (C26, C27, C28) which have a constitution of cholic acid or cholic acid itself. Furthermore, it was established that the other bile acids are formed from the cholic acid under oxyd-reduction in the animal body.

Studies made on relation between the cancerous disease and the abnormal production of nucleic bases.

(1) Nucleic base Uracil stimulates the growth of cancer tumor of the rat.

(2) Nucleic base Uracil decreases Carbohydrate Metabolism of the rabbit.

(3) The cancer tissue shows a remarkable decrease of Vitamin B₁.

(4) The Uracil content is found abundantly in young rabbits and it is increased in cases of rats with growing implanted cancer tumor or in case of Vitamin A deficiency.

Reprints attached.

XXV. OSAKA IMPERIAL UNIVERSITY

A Department of Biochemistry

B Microbiological Institute

C Department of Pharmacology

D Physiology Laboratory

E Surgical Clinic

F Takeo Institute for Tuberculosis

G Internal Medicine

OHIO STATE UNIVERSITY
Department of Biochemistry
Prof. K. Ichihara

Investigated enzymatic reactions, particularly the production of indole from Tryptophane by bacteria. Studied the enzymatic oxidation of ascorbic acid. An outline of the work as well as reprints are attached.

OSAKA IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Dr. Tenji Taniguchi, Director, Microbiological Institute

Directly interested in virus and virus-like diseases from the standpoint of the elementary bodies and inclusion bodies. Principally the relationship to pathogenicity, etiology and the life cycle.

A listing of research for the past five years is appended. Reprints on the completed phases of this work will be forwarded under separate cover.

This institute has been engaged in the production of vaccines, antisera and antitoxins. None are different from those produced in other government laboratories.

Buildings and laboratory facilities exhibit the unkemptness observed elsewhere.

The director, Dr. Taniguichi, from his works, is an internationally recognized individual in the field of microbiology. A listing of his research publications to 1941 is included in the reprints.

Has done work on *exo evythrocytic malaria* in chickens (*gallin-accum*).

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OSAKA IMPERIAL UNIVERSITY
Department of Pharmacology
Prof. M. Okagawa
Assistants: I. Yamamoto
 E. Nichikawa
 J. Audo
 F. Ito

Professor Okagawa and his four assistants were interviewed. His most important investigations were studies on the pharmacology of adrenalin. He has studied the effect of vitamin C on adrenalin content of suprarenal gland and has published a paper on the formation of adrenalin from dioxypheylalanine (the mother substance).

He studied over 100 drugs and essential oils as repellents for mosquitos. Those of value were capronic acid, caprilic acid, Shiso oil (from the shiso plant, grown in Hokkaido, containing 35% Pelliraldehyde) benzaldehyde, benzophenene, citronellaldehyde, and citronellyl acetate. The last three were the best. This work is not yet published.

Attached is a list of more recent studies, as well as reprints of their studies.

His most important researches were devoted to the physiology of digestion. He was the first to show that the effect of nitrogen on the growth of plants was not due to the nitrogen itself but to the ammonia which it contained. He also discovered that the nitrogen in the soil was not available to plants in the form of nitrate but in the form of ammonia.

He was also the first to show that the nitrogen in the soil was not available to plants in the form of nitrate but in the form of ammonia. He also discovered that the nitrogen in the soil was not available to plants in the form of nitrate but in the form of ammonia.

Attached is a list of more recent studies, as well as some prints of these studies.

OSAKA IMPERIAL UNIVERSITY
Physiology Laboratory
Prof. H. Kubo

Investigation of oxidation-reduction potentials of various
Biologic and Chemical systems. Attached is a list of papers
published and 3 reprints.

OSAKA MEDICAL UNIVERSITY

Surgical Clinic

Director: N. Takebayashi

Investigated the detoxification of Sulfanilimides in the animal body. Evidence submitted that nicotine acid may assist in the acetylation of Sulfanilimides. Three reprints attached.

Hideo Sei:

Investigated the physiology of the spleen and has prepared a spleen preparation which caused an increase in red blood corpuscles. This preparation is in the experimental stage, but is prepared as follows:

Crushed fresh cows spleens are washed with acetone and ether and stored in sealed containers. 10 such spleen treated with 8 Kg acetone, containing a trace of HNO_3 and then 1.8 Kg ether.

The dried material is extracted 5 times with 2% Na Cl at 38°C for 1 hour, centrifuged and filtered. An equal amount of glucose is added and the solution is refrigerated 24 hours, crystals separate which are claimed when given in 1 gram doses causes the rapid production of red blood corpuscles.

A second method for production of active material is to add 10 cc of water / 10 cc of Alcohol, containing 0.5% H Cl to 1 gram of dried spleen material. Crystal like material forms on the surface. Attached is an outline of this work.

H. Iwanaga, Chief Surgeon

H. Hama, Assistant

Investigated a blood clotting material prepared by treating cows blood with 1% hydrogen peroxide. The foam is skimmed off dried, dissolved in salt solution and prepared for injection. Ampoules forwarded under separate cover. One or two ampoules of a 2% solution are said to stop bleeding from serious wounds

Investigated and prepared a hemicellulose (Sulfuric Acid ester) which was found useful as a substitute for blood plasma.

Sample under separate cover.

Developed Histaminase and found it very useful in treating allergic conditions. Sample under separate cover.

OSAKA IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Takeo Institute for Microbial Disease (Tuberculosis)

Dr. Avao Imamura, Director, 3rd Clinic for Internal Medicine, Osaka University; Director, Takeo Institute for Tuberculosis, Osaka University.

Dr. Imamura is primarily working in tuberculosis, as director of the institute. He has been instrumental in the initiation of the B. C.G. vaccination program in Japan. From his statistics, over a fifteen year period, a definite reduction in the incidence of tuberculosis among the vaccinated is shown. By means of a mobile laboratory, over 700 thousand individual examinations of civilians from infancy to old age have been made, in determining further the prevalence of tuberculosis.

The work in progress at present is principally directed toward developing new attenuated M. tuberculosis hominis strains by cultivation on a glycerine-gall-potato medium. Four strains showing a high degree of attenuation by animal experimentation, have been developed. These have not been used in humans.

A so-called spectroscopic diagnostic method for cancer, using an extract of cancerous tissue and serum, has been developed.

Reprints of research will be forwarded under separate cover.

A digest of the cancer diagnostic method is appended.

OSAKA IMPERIAL UNIVERSITY

Dr. Arao Imamura, Prof. Internal Medicine

A specific Acid Turbidity Reaction Test for cancer diagnosis has been developed. The method, in Japanese hands, shows promise. The procedure is attached.

Also, attached are reprints of III Clinic for Internal Medicine.

XXVI. TOKYO JIKKEIKAI MEDICAL UNIVERSITY

Dept. of Forensic Medicine

XXVII. AGRICULTURAL EXPERIMENTAL STATION

Director of Research

XXVIII. JAPANESE ARMY DEPOT FOR MEDICAL MATERIAL

Research Dept.

XXIX. RESEARCH INSTITUTE OF TUBERCULOSIS

Dr. H. Oka, Director

XXX. WARTIME RESEARCH COMMISSION

Board of Technical Science

XXXI. EDUCATION REQUIREMENTS FOR MEDICAL DEGREE - Igakusi

TOKYO IMPERIAL MEDICAL UNIVERSITY
Department of Forensic Medicine
Prof. Mitsuberu Ishikawa

Professor Ishikawa investigated Anaphylaxis in animals since 1934, with the object of its application to the prevention and treatment of allergic diseases, though no clinical application has been made to date. Little attention to date has been made by the clinicians to allergic diseases and their treatment.

Recent work has been on sensitization of animals to drugs and chemicals, somewhat similar to that of Landsteiner's work. He has attempted to differentiate between chemicals causing skin sensitivity alone, or those causing skin and intestinal muscle sensitivity in guinea pigs. For example, aspirin and Barbitol, quinine, chromium compounds, cresols caused only skin reactions while Iodine, such as Lugol's solution produced both skin and muscle sensitivity. He was unable to sensitize animals to thyroxin.

Attached is an outline of the research activities of Jikeikai Medical University, also the collected research papers of Prof. Ishikawa on Anaphylaxis.

AGRICULTURAL EXPERIMENTAL INSTITUTE

Dr. Jeijiro Yabuta, Chemical Engineer, Director of Research

Investigations of interest were the studies made on Vitamin B₁ and C:

Vitamin B₁ was obtained from peanut skins and Dr. Yabuta states that it contains about 7000 units of Vitamin B₁ in 100 Gms. as compared to rice embryo which contains 4500 units of Vitamin B₁ in 100 Gms.

Vitamin C was found present in Persimmon Leaves and in Walnut Leaves from 1% to 2% on the basis of dried leaves.

Reprints attached.

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HOME ISLANDS MEDICAL SUPPLY DEPOT - YOGA (Tokyo)

Research Dept.

Lt. Col. T. Yamanouchi, Director of Research

Research Plan since 1940 constituted studies on Cardiotanics, disinfectants, anesthetics, sulphanamides, Vitamins, anti-malaria remedies, and investigations for substitutes of chemicals and provision against lowering of specifications.

Investigations of interest are as follows:

1. Caffeine sodium acetate and sodium naphthaline-sulphnate were produced experimentally to economize the usage of toluene, the raw material for caffeine sodium benzoate.
2. Synthesis of dimethyl ester of phthalic Acid.
3. Simplified method of obtaining local anesthetic by the combination of p-aminobenzoin ethyl ester and p-phenol-sulphonic acid.
4. Synthesis of sulphabenzotriazole for a new chemotherapeutic medicine.
5. Synthesis of thiazole nucleus for vitamin B₁ without the use of phosphorus compounds.
6. Utilization of butyl ester of gallic acid to prevent oxidation of vitamin A.
7. Promotion of the therapeutic effect by the modification of quinine (seven new effective compounds have been obtained).
8. Simplified method of manufacturing disinfectant from pine root oil.
9. Simplified method of obtaining Vitamin B₁ bran rice and wheat germs or rice bran.
10. Examination of the use of Nerium Odorum, a cardiotonic.
11. Manufacture of vitamin B₁ from the waste liquor obtained during starch production.
12. Manufacturing method for intestinal medicines by anti-septic butyro-bacteria.

Reprints and sample of Bacillus Butricus enclosed.

RESEARCH INSTITUTE OF TUBERCULOSIS

1005 Shimakiyoto, Kiyose, Kitatama County, Tokyo

Director: Dr. Harumita Oka.

This modern appearing laboratory is one of the important centers for tuberculosis research. Dr. Oka has headed a 24 man committee which has been responsible for giving BCG vaccine to more than nine million people, exclusive of the Army and Navy. This committee has studied a group of 100,000 Japanese receiving the vaccine and another equal size group in another area which served as a control.

Using repeated tuberculin tests as the basis for X-ray examination during a 5 year period of observation completed in 1943, the following general conclusions were drawn:

The 100,000 people receiving BCG in certain areas showed only 50% of the XRay evidence of infection seen in the control areas, 1/4 the clinical evidence of infection and 1/7 the death rate. In the group receiving BCG, the percentage of extra pulmonary lesions was reduced and the usual peak death rate between 20-25 years of age was flattened.

The vaccine is made from the original BCG strain brought from France. This culture is maintained on potato bile medium. When vaccine is to be produced, the organisms are cultured two weeks in Sauton's fluid, dried somewhat on sterile filter paper, weighed, suspended by shaking in Saline and gelatin and dispensed for immediate use. The vaccine is outdated after seven days.

It is administered intracutaneously in a dose of 0.1 cc which contains 0.04 - 0.06 mg. of tubercle bacilli. It is only given to tuberculin negative individuals. It is not given subcutaneously because of the danger of abscess formation. The age groups most extensively studied have been 15-25.

Dr. Oka has furnished english summaries of research publications, copies of the publications and reports pertaining to BCG and a stock culture of the BCG culture used to produce the vaccine. (Additional reports on work with BCG vaccine, have been accumulated from other sources and reported under other institutions).

Stock culture carried to Surgeon General's Office by Lt. Col. Henry Cotton, on 18 November 45.

Reprints are attached.

English summaries will be forwarded under separate cover.

WARTIME RESEARCH COMMISSION
(Board of Technical Science)

This appears to be an overall scientific development and research organization which is responsible to the Cabinet. Its governing section is The Chamber for Technical Sciences.

The Chamber for Technical Sciences is composed from the Vice Ministers of Cabinet positions and from Technical services such as Aviation, Shipbuilding, and Ordnance Administrative Headquarters. In all there are 25 members. This chamber decides upon what projects shall be undertaken, allots funds, decides upon priority, and delegates the work. However, the chief of each project is appointed by the agency for which the project is undertaken.

Most of the scientists working on WRC projects are also those associated with the NRC. It is said that this results from the lack of qualified men.

Reference is made to Research Projects of Army Medical College of Appendix "A", Section III of the periodic reports.

EDUCATIONAL REQUIREMENT FOR MEDICAL DEGREE - IGAKUSI

(From interrogations of responsible members of the Ministries of Education and of Public Health and Welfare and Dr. Tamiya, Dean of Tokyo Imperial University Medical College.)

Curriculum requirements are set by the Ministry of Public Health and Welfare, and the Ministry of Education sees that they are met by the colleges.

<u>SCHOOL</u>	<u>YEARS</u>	<u>AGE</u>
Elementary School	6 Years	6 - 12
Intermediate School (Semmon Gekko or Class B Medical College requires an extra year in lieu of Higher School Course)	4 or 5 Years	12 - 16 or 17
Higher School (Reduced to 2 years during the war)	3 Years	19
Medical College (Reduced to 3 years during the war)	4 Years	23

Upon graduation from Medical College, a student may apply for license; no special examination is required.

Faculties of the Universities, other than Medicine, require 3 years for graduation.

Internship is not required but is customary. Though clinical work is included, the greater effort goes toward study and preparation of a thesis which usually requires 2 - 3 years to complete. Then the student is granted a higher degree, termed "Hakushi".

The Semmon Gekko (class B school) was designed about 1937 to produce medical men for the forces exploiting East Asia. Semmon Gekko students entered after Intermediate school. Course was for 3 years in contrast to 4 years for the University course. During the war it was reduced to 2 years. In this manner a large group of poorly educated men was produced. The Japanese say that these men "lack culture".

The above appears to mention two of the factors tending to lower standards of medicine:

1. The mass production of the Semmon Gekko.
2. The large proportion of University graduates seeking a higher degree rather than going into clinical work. This also tends to "pad the literature" with worthless papers.

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